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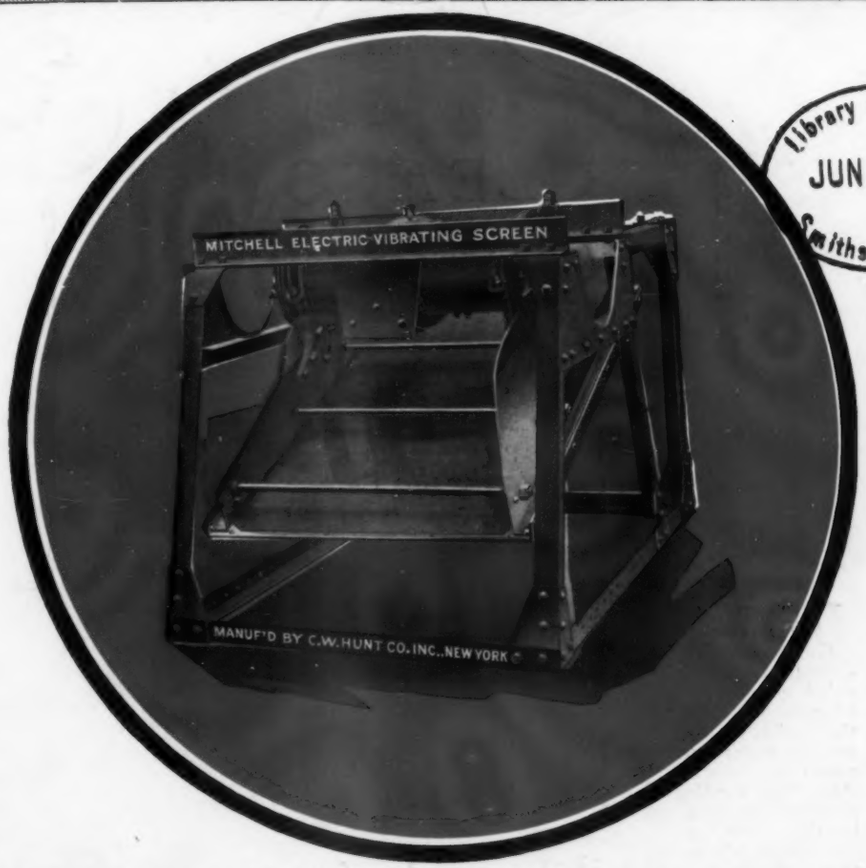

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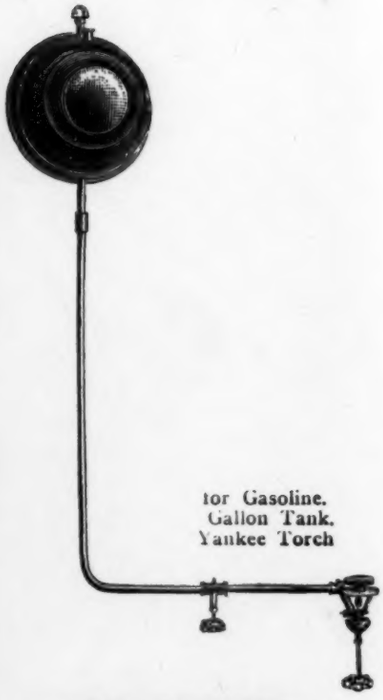

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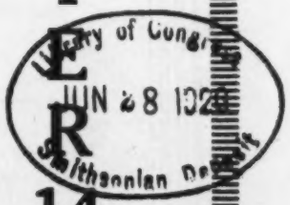

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AMERICAN
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Fuel of the Future--What Shall It Be?

XXXII. Heat treatment in the non-ferrous metals industry

Ismar Ginsberg

WE have been dealing with the heating operations that are carried out in the non-ferrous metals industry, particularly, of course, with the use of heat in the melting operation. Considerable attention has been paid to the description of the design and the construction of the furnaces that are employed in these operations and to the general results that are obtained from these furnaces with one or the other of the fuels that are commonly employed for this purpose. It has been shown that while some of these furnaces are not very efficient, nevertheless they are still being used in the melting of brass and other alloys and non-ferrous metals. The gas-fired furnace that has been developed within recent years has given good results everywhere that it has been introduced, and in spite of the higher cost of the fuel the use of gas has introduced various economies which have at times more than counterbalanced the higher price of the gas as compared with oil and coal. It has also been pointed out that the electrical appliance manufacturers have developed furnaces for use in brass melting which have given good results, to be sure, but which are by no means as economical as the properly designed gas-fired furnace.

Both Extremes Found In Brass Industry

The non-ferrous metals industry and the brass industry in particular is peculiarly characterized in that in certain instances it will use a very expensive electrical furnace, expensive both in initial cost and in cost of operation, and in other cases the old type of coal-fired furnace is employed and the inefficiencies tionably plenty of opportunity for the gas man in of this apparatus are put up with. There is unquesthis field. This does not mean that he will succeed in getting a manufacturer to change his operations just by the mere asking, for no manufacturer is anxious to disrupt his operations by the introduction of a new fuel. But it does mean that the brass melter can be sold on gas and if sold in the right way, he will remain sold indefinitely. Those gas companies who have gone into this field and who have advocated the use of the properly designed furnace have found that the recompense more than compensates for the time and effort spent in getting the brass melter to change his operations and adopt gaseous fuel.

It has often been pointed out that the gas man cannot obtain good results with his high quality fuel unless it is used in a high quality furnace. A good mechanic may get some results from bad tools, but in order to show his real ability he must have good tools. Gas is like the mechanic. It will produce some results in a poorly-designed furnace, but these will not compensate for its fuel higher cost. On the other hand, when used in the well-designed furnace, it will give very excellent results.

Further on the Pit Furnace

It has been said that the pit furnace in which a crucible is employed is a very popular brass-melting apparatus. But there are many disadvantages connected with this type of furnace. Not only can the metal easily be spilt out of the crucible and hence lost, if it is not recovered at considerable trouble from the ashes in the fire, but the crucible is subjected to all sorts of destructive agencies which tend materially to reduce its life. The pit furnaces are generally very slow in their operation. They take up a great deal of space which is quite out of proportion to their productive capacity. The heat is not

held well within the apparatus, and a good deal of it is lost. The room in which these furnaces are located is generally very hot, due to the radiation of heat from them. With all these disadvantages it is not unexpected that the quality of the casting is apt to be very poor, due to oxidation of the zinc, which causes what is known as season cracking.

It is really remarkable that the brass industry still puts up with these inefficient melting furnaces. They may be cheap to erect and easy to add to, but the low first costs are far more than counterbalanced by the increased operating costs due to their thermal and mechanical inefficiency.

Improvements In the Pit Furnaces

A number of methods have been developed which constitute improvements over the pit furnace method of melting brass and other alloys. Gas and oil have been employed as fuels. The use of oil fuel in the regular pit furnace is surrounded with all sorts of disadvantages. In the first place, and this is by far the most important of all the conditions that pertain to the use of oil fuel in the pit furnace, the combustion of the oil and the products obtained have a very deleterious effect on the substance of the crucible. If the oil flame is allowed to play directly on the walls of the crucible or on the brickwork that surrounds the crucible, it will not be very long at all before the otherwise fire-resistant substance will be completely burned through. Oil is a particularly offensive fuel from this consideration.

Indirect Firing Methods

Of course, means have been devised for getting around this difficulty and these have consisted mainly in preventing the flame from impinging on the crucible or the walls of the furnace in its neighborhood. Thus pit furnaces have been designed with two compartments. The crucible is located in the first compartment, while in the other is the burner. The burner is placed in such a position in this compartment that the flames strike up against a triangular block and are thus deflected and divided into two parts. One-half of this flame enters one compartment and the other half is made to swirl around the crucible. Of course, the action of the flame is just as strong on the triangular block as on the crucible or furnace walls and it is not long before this is destroyed and has to be replaced with another. The cost of these blocks is not very great and it is far less expensive to replace them than other parts of the furnace or the crucible itself.

There are also furnaces in which there is only one compartment and the flame in that case is made to go around the crucible and finally emerges at the top. Here, again, the action of the flame is still severe on the furnace lining, while there is this advantage that the furnaces will melt the metal much more rapidly than the ordinary type of coal-fired furnace. It has also been found that where cold air is employed for the combustion of the oil, the length of the flame is always increased and this has the effect of causing additional wear on the walls of the furnaces and other parts that come in contact with it.

Furnaces With Stationary Crucibles

Another way in which attempts have been made to improve the mechanical design of the pit furnace and thus bring about higher efficiency of operation is by the use of stationary crucibles in the place of movable. The purpose there has been to avoid the spilling of the charge while lifting the crucible out of the fire, and also to prevent the alternate heating and cooling which the crucible undergoes, when lifted out and put back again into the furnace, which does not have a very good effect on its life.

From a certain angle these stationary crucible pit furnaces have proven to be better arrangements than the crucibles that are lifted out of the fire. But it must be remembered that the metal must be gotten into the crucible in some way and also removed therefrom. The charging of the crucibles may not be so great a task but the removal of the molten metal requires the use of auxiliary ladles and crucibles. After all, the chief advantages of the movable type of crucible are that they can be carried around the plant and that the charge can be poured out into molds stationed at convenient points.

Drawing Spilt Metal

One added advantage of the stationary crucible type furnace is the provision of means for draining out the molten metal in case the crucible should break. This is an important advantage, for it avoids the necessity of working up metal contaminated with ash and other residues which is always the case when the ordinary type of pit furnace is used. The brass can be directly removed from the drain and poured into molds.

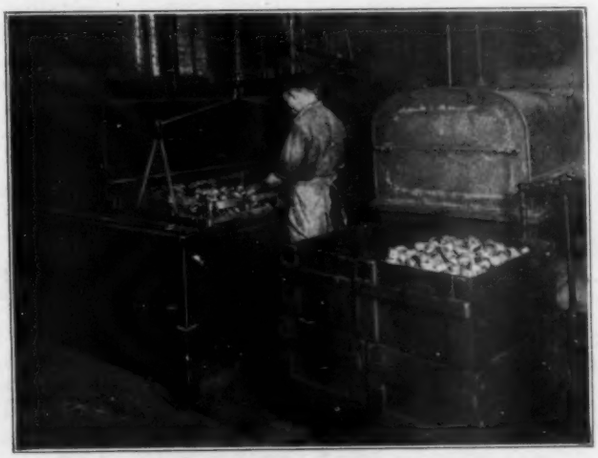
When oil or gas is employed as fuel in the crucible furnace it has been found that a considerable amount of time is gained in the firing. Thus five melts may be made and poured in this type of furnace while only three are being made in the pit-fired furnace. In this case the oil or gas furnace is using cold air for burning the fuel. The gas-fired crucible furnace is not an expensive furnace when all costs are taken into consideration, for it must be remembered that in this furnace there is no loss of fuel due to the size of the fire not being properly gauged for the number of melts that have to be run. When the gas is shut off, consumption stops. This is by no means the case with coal fires, which are difficult to judge as far as size and probable number of heats are concerned. It very often happens that quite a large fire is still burning after the last melt has been made. This, of course, occasions loss of fuel.

Another advantage of the gas-fired furnace is that its operation does not depend on the weather

conditions nor on stack drafts, with the result that the heats are turned out regularly.

Recuperation In Brass Melting Furnaces

It has been said a number of times that the important factor in the furnace that employs gaseous fuel is the economy of the fuel, the saving of the heat developed as far as possible. In other words, every step must be taken to see that as little heat is wasted and lost, particularly inasmuch as the fuel that is used to generate this heat is an expensive one. The real advantages of gaseous fuel can be enjoyed only when measures are provided for recuperating the heat that would otherwise be wasted in the form of flue gases or be lost by radiation from the walls and other parts of the furnace. Thus, wherever it is possible it is well to insulate the various metallic parts of the furnace in order to avoid



Gas Fired Furnace Used in Bright Annealing Work

the loss of heat by radiation, and if the gas-fired furnace is to give really valuable results it must be provided with a heat recuperator.

The higher the temperature that must be maintained in the furnace, the higher the temperature of the flue gases that leave the furnace. It is patently evident that the temperature of the flue gases, for example, must be at least 1000° F. if the temperature within the furnace is to be 1000° F. In actual practice it is essential to have the flue gas temperature anywhere from 50° to 100° higher than the furnace temperature.

Productive Capacity Increased

There is accordingly a great deal of heat in the flue gases and in the new type of gas-fired brass melting furnace, heat recuperators are built in which are used to pre-heat the air employed in combustion to a temperature as high as 1000° F. The immediate effect of this is to increase the productive capacity of the furnace by materially increasing the speed at which melting takes place. Thus, the number of heats that can be carried out with such a furnace is increased to seven or eight in comparison with three that are carried out in the same length of time in the ordinary pit furnace. Furthermore, the metal losses are kept down and the cost of melting with gas at eighty-five cents per thousand cubic feet has been estimated to be one-fifth of a cent per pound.

A particular advantage of the recuperative type of furnace of new design is that measures are provided whereby the flame is not allowed to impinge on the crucible. The burning of the gas, for example, takes place within refractory tunnels and from these the gases of combustion are allowed to enter the furnace proper and there do their work. The temperature of these gases is at the maximum when they first work their way into the furnace. This practice has the effect of prolonging the life of the crucible and also of the various parts around the crucible which are constructed of fire-resistant brick.

Residual Heat Can Be Used

The flue gases when they leave the recuperators still contain considerable heat. In fact, it is impracticable to recuperate the waste heat in the flue gases beyond a certain limited point. Thus if the air that is being pre-heated leaves the recuperators at 1000° F., it will be found that the flue gases leaving the same apparatus will have a temperature of somewhere between 900° and 1000° F. It is, however, still possible for some use to be made of this heat as, for example, in the drying of cores and the like around the plant.

It has been mentioned that one of the weak spots in the crucible type furnace is the block on which the crucible rests and which is subjected to considerable heat disintegration. It generally lasts but little even when it is made of the same material as the crucible itself. It has, however, been found that very good results are obtained by making this block out of carborundum.

It may be mentioned in passing that it is possible to make tilting crucible furnaces with recuperators. Special design makes it possible for the crucible to be tilted and thus discharged or charged without affecting the recuperator.

Furnaces For Larger Charges

It is, of course, recognized that the crucible type of brass-melting is suitable for small charges only. There are various types of furnaces used in brass melting plants where the charge is much larger than in the crucible furnace. Thus, the capacity of these furnaces will vary from 500 pounds to several tons. Some of these have been described in the preceding articles of this series. As a general rule these furnaces are rapid in their melting action, but they are also generally very wasteful of fuel, particularly in that no attempt is made to recuperate the heat in the flue gases. They are not efficient apparatus by any means and inasmuch as they have been using cheap fuels, this factor has not been considered to be of any importance. However, it is a fact that when the furnace is wasteful of fuel, its inefficiency

does not stop there, but it is also generally wasteful of metal, as well. It has, accordingly, been found that the metal losses are also very high in these furnaces.

Rotary Recuperative Furnace

A very interesting type of furnace for use in brass melting has been developed by the Surface Combustion Company. This furnace is of the rotating type. The gases leave this furnace at the same point where the pouring is accomplished. This is effected by an arrangement of ports surrounding the burner. The gases on leaving these ports enter the heat recuperator and there heat the air that is afterwards used for burning the gaseous fuel. During the melting period the furnace is constantly rotated and is stopped only when it is ready for pouring.

Metals such as copper and nickel are melted by means of the direct fire. On the other hand, when scrap metal and volatile metals, such as zinc, lead and tin are added to the molten copper or nickel, then the furnace is advanced from the recuperator, the metal is thrown in and melted from the residual heat that is contained in the brickwork. Then again, inasmuch as the temperature of the molten copper or nickel is higher than the melting point of these volatile metals, heat is also derived from the molten mass of copper and nickel. It is claimed that this furnace has all of the advantages of the electric furnace used in the non-ferrous metals industry and at the same time it uses a much less expensive fuel.

There are various special design features of this furnace which prevent the leakage of fumes from the joints between the recuperator and the furnace linings. Various other mechanical arrangements facilitate charging and discharging the furnace and the like.

Performance Data on Brass Melting

It is always interesting to read of performance data on apparatus that burns gas in comparison with other fuels. A considerable amount of data has been rendered available to the writer on brass melting and this data will be reviewed in the following.

Thus in one case fuel oil was employed for the melting of yellow brass in a regular rotary furnace. With fuel oil at six cents per gallon, the cost of melting was claimed to be twenty-five cents a hundred pounds. The loss, or shrinkage, as it is also called in practice, amounted to between three and four per cent. The furnace linings were good for three hundred to four hundred heats before they had to be removed. In this particular case the linings were removed once every three months.

It should be mentioned that the figures which are given above and the others which will follow are actual operating figures which were supplied by different brass melters and manufacturers of various articles in which brass melting was one of the essential operations. It is not permissible to reveal the sources, but it must be emphasized again that the figures are actual results and not theoretical or mathematically worked out approximations.

Low Cost of Fuel

Another manufacturer writes that when using oil fuel at seven cents a gallon, the cost of melting was $0.006 per pound of metal melted. The loss of metal amounted to 2.6 per cent., and one lining of the furnace lasted for six hundred heats. This company said that they were not using the oil furnaces any longer for melting brass in the manufacture of their regular line of goods, which included water, plumbing and gas brass goods, but had installed electric furnaces. This is a good example of the desire on the part of brass melters to increase the efficiency and over-all economy of their brass-melting operations even at a higher cost of fuel.

An electrical manufacturer furnished some interesting data on the use of oil in the melting of phosphorous bronze-bearing metal which contained eighty per cent. of copper, ten per cent. of lead and ten per cent. of tin. The consumption of fuel oil to melt 1,000 pounds of the alloy was found to be thirty gallons. Low pressure air was employed in the process. The quality of the fuel oil was 24° to 28° Baume. The cost of the fuel was three and three-quarters cents per gallon delivered in St. Louis. The percentage loss, which is, of course, dependent on the character of the mixture melted, was less than one per cent. on the average, and in the case of yellow brass it was between two and three per cent. The life of the lining in one furnace of this type was four hundred heats and in a smaller furnace it was as high as five hundred heats. When asked whether they would enlarge the foundry with the same equipment, this manufacturer answered that if they had a large production of one mixture, that is one specific alloy, they would be tempted to use the electric furnace. These people had heard of the gas-fired furnace but had never had any experience with it. They felt that the electric furnace was not suitable for their work, but they believed that it was the coming furnace. It would appear that here is

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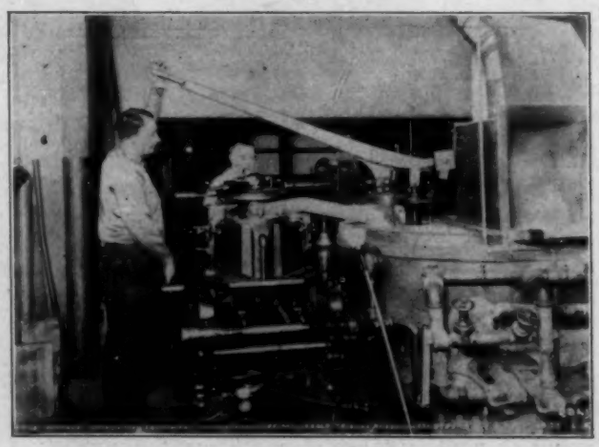

Gas in the Newspaper Plant of New York Herald-Tribune

a good customer for gas if the right kind of furnace could be furnished.

Oil-Fired Furnace Not Used On Yellow Brass

A company melting yellow brass said that they found it impossible to use an oil-fired furnace for this purpose due to the high losses of metal that were incurred, and hence they were forced to supplant these furnaces with electric furnaces. The particular alloy manufactured contained sixty-five per cent. copper and thirty-two per cent. zinc. Here is another concrete case of the desire on the part of brass melters to get away from the inefficiency of the oil and solid fuel fired furnace because of the high losses occasioned in their operation. This company would also be a very fine prospect for the gas-fired furnace.

Another manufacturer reported that he used fuel oil of 24° to 30° Baume specific gravity in a rotary furnace and that the oil cost four and one-half cents a gallon delivered. The fuel cost was 0.12 cents per pound of brass melted. The brass in question contained sixty-six per cent. copper, three per cent. lead and the remainder zinc. The average loss was 2.95 per cent. over a period of one year. The rotary type of furnace is considered to be more efficient than the crucible type. It was found that this was particularly the case as far as the oxidation of the metal was concerned. A layer of molten slag over the surface of the metal in the furnace tended, it was claimed, to suppress the oxidation of the metal to a considerable extent.

In still another case the consumption of fuel oil was nineteen gallons per thousand pounds of alloy melted. The time of melting in the case of a test heat of 625 pounds was found to be thirty-nine minutes, with a loss of 2.8 per cent. of metal. This refers to the operation of a rotary type of furnace. On yellow scrap the loss was generally around four per cent. This particular manufacturer seemed to think that the principal consideration was the cheapness of the installation and did not give due attention to his losses.

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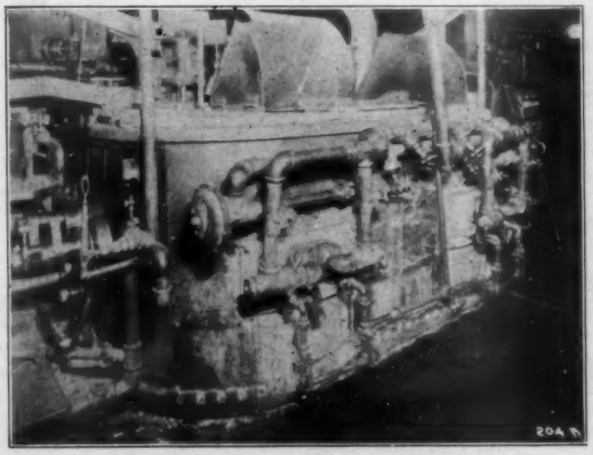

Gas in the Plant of the New York World

The Gas Rate a Deterrent Factor

A manufacturer in the Southwest reported that he could not consider the use of gas because of the high rates for gas in his city. He used fuel oil instead and figures his entire fuel cost over the period of one year as 26.7 cents per hundred pounds. The gas rate is, of course, important in the sales of the fuel for industrial purposes. In spite of all the advantages that are claimed and are obtained with gaseous fuel, there is no question that the unit price of the gas is still a controlling factor in many cases. It is especially so in those plants where the operating efficiency may be high with the fuel that is at present in use, for then the economies of the gas-fired furnace will not be so great as when the furnaces are inefficiently operated. The situation might appear to be a hopeless one in such cases, but it must not be considered so until all efforts have failed. Each individual brass-melting plant will have peculiar conditions all its own, and there is no telling when it may not be possible to introduce gaseous fuel even when the cost per unit is high. It goes without saying that when the cost is reasonable, the task is an easy one, and as the industrial business of the gas industry develops and develops along proper lines, it will become possible to reduce rates to such a point that no one will want to be without gaseous fuel in his plant.

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BOY SCOUTS TAUGHT COOKING

Brooklyn Gas Company Has Special Class for Them

The Boy Scouts, who were being taught the art of cookery by Miss Mildred Magonigle of the Home Service Division of the Brooklyn Union Gas Company, have completed their course. The demonstrations, which were given at the Williamsburgh Sub Branch, lasted for six weeks. The Scouts showed keen interest in learning the proper method of cooking foods and their nutritive values.

The honor students at these demonstrations are shown in the kitchen preparing a dinner for the other

attendants. They are: Arthur Atz, Stanley Crawford, John Fry, Herbert Insull, Charles Insull, Albert Jensen, Charles Klein, Walter Ley, William Mason, Herbert Steinberg, Harold Trenchen and Edward Yourn.

Regulating Gas-Heated Apparatus

Automatic regulation systems and their use

S. S. Amdursky

Rochester, N. Y

AUTOMATIC control of industrial processes is today an accepted fact. In heating processes, the choice of a fuel that permits of close and automatic control has influenced the ever-increasing use of gas for industrial heating. Of all available fuels, gas is ideal.

Having an ideal fuel available, the next consideration is the proper design of the apparatus to use this ideal fuel.

With these two factors properly taken care of, the selection of the proper type of equipment for automatic temperature control becomes simplified and is limited to the temperature to be controlled, the construction of the apparatus, and the convenient location of the instrument proper.

While it is true that with gas fuel closer control by hand manipulation can be obtained than with any other fuel, it is also a fact that automatic control gives more accurate and more consistent regulation than is possible by the human hand. The chief reason for this is the fact that with hand control correction for varying temperatures can only be made after such changes have taken place and are shown by the thermometer or pyrometer indicating such temperatures, while the automatic control operates simultaneously with the tendency to change in temperature and automatically compensates for such tendencies, therefore maintaining a closer and more consistent control.

While automatic control apparatus may be classified into two general divisions, i.e., temperature and pressure, for our purpose we will discuss those that are used for temperature control only.

Four Types of Temperature Instruments

Automatic temperature regulators may be classified into four types: Air operated, water operated, electric contact, and self-operated types.

The air-operated type may be again subdivided into two principles of operation:

1. The expansion and contraction of solids, such as metals or refractory material.

2. The expansion and contraction of liquids, gas or the vapor pressure of boiling liquids.

In these two types the motive power used to regulate the control valve in the gas supply line is air under pressure. The regulating valve is controlled indirectly by the pressure of the air going through the air valve block or pilot valve in the control instrument. A simple form of regulator which operates on the difference in expansion of two different metals, has its sensitive member or bulb connected to the instrument case or head.

The range of temperatures that can be controlled by this type of instrument is 32° to 650° F. For control above 250° F. the instrument is specially constructed so as to eliminate possible effect of conducted or radiated heat to the head of the instrument.

For gas-heated apparatus it is possible to use this type of instrument for control within plus or minus 1° when it is convenient to locate the instrument in the apparatus so as to have it easily accessible. It is known as the Type "P" regulator and can be furnished with a stem or sensitive member 15 inches long where a poor contact medium such as heated air exists.

Water-Operated Regulator

The water-operated regulator known as Type "A" operates on the same principle except that water under pressure is the motive force. Its range is limited from 32° to 212° F., or the boiling point of water. There are few applications gas heated that come within this range. Such applications are limited to liquid baths, and since compressed air is either available or can be furnished by a small automatically-controlled motor-driven compressor, it is only recommended for such conditions where other types of control cannot be used.

The second classification of air-operated instruments is perhaps the best that is available for temperatures up to 1000° F. It is known as the capillary type of regulation, and can be furnished in the so-called vapor tension, gas or mercury-actuated types, depending on the temperatures to be controlled, the distance the instrument case is to be located from the sensitive member or bulb and the closeness of control desired.

The vapor tension type is suitable for temperatures up to 660° F. in increments of 50 to 100°, as follows:

Degrees Fahrenheit		Equivalent Degrees Centigrade		Degrees Fahrenheit		Equivalent Degrees Centigrade	
minimum	maximum	minimum	maximum	minimum	maximum	minimum	maximum
20	100	7	38	190	320	88	160
40	130	4	54	220	345	104	174
50	150	10	66	300	400	149	204
80	180	27	82	310	425	154	218
110	210	43	99	325	450	163	232
130	230	54	110	340	470	171	243
160	255	71	124	390	570	199	299
170	280	77	138	430	620	221	327
180	300	82	149	470	660	243	349

Note—Ranges 20° to 100°F., 40° to 130° F., and 50° to 150° F, cannot be furnished with a capillary form of bulb.

Lengths of capillary or connecting tubing between the instrument case and bulb up to 75 feet is standard —longer lengths can be furnished, if necessary.

This type of control gives closer regulation at the upper points of the temperature range of any particular instrument.

Construction of the Bulb

Bulbs or sensitive members can be furnished made of any known metals. These can be supplied with various kinds of connections such as flanges, unions or hooks. The bulb can be as long as 100 feet, for distribution over wide areas, to give more sensitive response to changes of temperature in poor contact medium, such as heated air, and will effect a more nearly average temperature than will a regular bulb of limited dimensions.

The gas-actuated type of control is similarly constructed, has a range up to 1000° F., and can be furnished in longer increments or ranges as, for example, 100-300, 100-400, or as long as 100 to 1,000. However, the longer the range the coarser will be the control at any given setting point, the type of bulbs and lengths of connecting tubing are the same as for the vapor tension type. The capillary type bulb differs from the vapor tension type bulb in that it will be affected by average temperatures along its length.

The mercury-actuated control operates by the expansion and contraction of mercury in a solid filled tube system of steel construction. It can be furnished for control up to 1000° F. in similar increments to the gas-actuated type. It is the most ruggedly constructed and will give as close control at one part of its scale range as at another. Its tube length is limited up to 25 feet as standard, although longer lengths can be furnished for special conditions. It is also furnished with a capillary bulb which is affected by average temperatures along its length.

Any of the above capillary type air-operated controls can be furnished in the so-called "singl-duty" or "dubl-duty" types. For heating above room temperature they are furnished with direct action air-valve blocks or pilot valves; for temperatures below room temperature, they are furnished with reverse action air-valve blocks.

Time-Temperature Control

In some processes a time and temperature schedule must be followed. In other words, the rate of temperature change, either fixed or variable, must be controlled.

For this application there is available what is known as a Thermo-Tyme regulator.

The Thermo-Tyme regulator, simply expressed, is a regulator provided with a clock which revolves a cam. The contour of the cam is so cut that it varies the setting point of the regulator automatically in accordance with a predetermined time and temperature schedule. Additional features, such as automatically shutting down the fuel supply or ringing an alarm at the end of the predetermined time can also be provided for in this apparatus.

The electric contact type of control may be classified into two general divisions:

1. For temperatures below 1000° F.
2. For temperatures above 1000° F.

In the former division the instrument may be had in vapor tension, gas or mercury-actuated types, having the same specifications as are applied to the air-operated capillary types of regulators.

In the latter classification there is available the pyrometer or thermo electric control in ranges up to 1800°-2200° and 3000° F.

In both types the contacts are made to withstand .5 amperes at 110 volts, and .25 amperes at 220 volts A. C. or D. C. Relays are interposed between the instrument and the control or regulating valve, so that larger currents than these may be carried.

It is preferable to have the electrical hook-up so made as to short circuit rather than make contact through the instrument.

Pyrometer Control

In the pyrometer control, contact is made at definite intervals by a synchronous clock-driven mechanism to "feel" the temperature then existing at the thermo-couple or sensitive element. If the temperatures are too low, contact is made on the low side and the gas valve is opened. If the temperatures are correct, no contact is made. If the temperatures are too high, contact is made on the high side and the gas is shut down.

The type of thermocouple to use depends on local conditions of the apparatus to which the control is to be applied, i.e., whether the furnace is of the open hearth or muffle type, whether the atmosphere is oxidizing, neutral or reducing, whether the thermocouple is to be located in the gases or in the material, the temperature of which is to be controlled.

More detailed information on the construction, principle of operation and application of all of the above-described controls is given in available catalogs and will not be repeated here.

One phase of automatic control applied to gas-heated apparatus is the absolute necessity of providing some form of pilot flame, either an independent line or by maintaining a minimum flame through a bi-pass valve around the regulating valve. The latter method is preferable in that all openings in the burner are lit at all times and there is no danger of feeding raw gas or backfiring.

One or Two-Pipe Systems

Another phase that must be considered is whether or not the burner is of the so-called one-pipe or two-pipe system. The automatic control of a "singl-pipe" burner, whether of the automatic type or high pressure type, is comparatively simple to control.

However, when two-pipe systems are used, some means must be provided in the valve mechanisms of the air and gas valves to properly proportion the volumes of air and gas at different capacities. This is not so simple to accomplish and while it has been attempted by throttling both valves with air-operated controls, or turning on or off both valves in the electric contact types, there does not appear on the market a dependable proportional mixing

mechanism embodying two separate valves that actually, and within practical limits accurately, proportions these two fluids.

It is, of course, unnecessary in many cases to control these proportions accurately, and the advantage of close temperature control outweigh the advantages of accurately proportioning of air and gas. For such applications the controls described above are practical.

The so-called self-acting type of regulator is not recommended for close control usually required in gas-fired apparatus. It is not as sensitive to temperature changes and its setting point is influenced by variations in gas pressure, radiation losses, loading capacity and heat value of the gas used.

Summarizing, we have the following regulating apparatus recommended for certain types of gas fluid apparatus.

Throttling Type	Overall Range	Control	Motive Power	Length of connecting tubing	Application
Type P	32° — 650° F.	± 1° F.	Air	12" or 15"	Liquids, tanks, oven furnaces, etc.
Capillary Vapor Tension	20° — 660° F. (as below)	± 3° to ± 1° F.	Air	up to 75 ft.	Liquids, tanks, oven furnaces, etc.
**Mercury	—40° to + 1000° F.	±1° to ± 5° F.	Air	up to 25 ft.	Liquids, tanks, oven furnaces, etc.
Electric contact (on and off control)					
Capillary type Vapor Tension	20° — 660° F.	± 5° to ±3° F.	Electricity 110 or 220 volts	up to 75 ft.	Liquids, tanks, oven furnaces, etc.
**Mercury	— 40° to + 1000° F.	± 5° to ± 10° F.	"	up to 25 ft.	Liquids, tanks, oven furnaces, etc.
Pyrometers	1000° — 3000° F.	± 10° to ± 25° F.	"	up to several hundred feet	Liquids, tanks, oven furnaces, etc.

Tube system ranges vapor tension Degrees Fahrenheit	Overall ranges **Mercury actuated systems Degrees Fahrenheit
20 to 100	50
40 to 130	70
50 to 150	150
80 to 180	200
110 to 210	250
130 to 230	300
160 to 255	400
170 to 280	500
180 to 300	600
190 to 320	700
220 to 345	800
300 to 400	900
310 to 425	
325 to 450	
340 to 470	
390 to 570	
430 to 620	
470 to 660	

Complaints Have Value*

They are merely contact points to promote good will

John T. Naylon

Division Manager, Oklahoma Gas and Electric Company, El Reno, Okla.

SEVERAL years ago, as the story goes, a certain Oklahoma citizen entered the office of a gas company feeling that he had a just complaint to make regarding his gas service. The local manager of that particular company, possibly not in the best frame of mind, in the course of the conversation told this complaining customer to go to H—. Instead of going there he went to the Legislature and introduced a bill doing away with the minimum bill of gas which, when passed, deprived the gas companies of Oklahoma of a fair summer rate. This naturally necessitated an increased block-rate schedule with its unfavorable reaction from the public, and expensive valuations and rate hearings before the regulatory body.

While this is an extreme case, it does bring out the point that a complaint, no matter how small, must be given immediate, careful personal attention and investigation, and not considered disposed of until the customer is entirely satisfied with the results.

* Delivered before the Natural Gas Association of America, at Tulsa, Okla., May 18, 1926.

No Complaints Dangerous

It is safe to say that a utility company that has no complaints or service calls is in worse shape than one which has a reasonable number. The former situation can be compared to a man sitting on top of a volcano, not knowing when something is going to break loose, while in the latter case, a well organized, well informed complaint and adjustment force can turn a complaint registered by a reasonable customer into a valuable asset, completely changing a latent enemy into an active friend.

A complaint has been defined as "an expression of grief, pain or resentment," and in the utility business some complaints are, in the minds of some customers, a combination of all three—but, no matter what the nature of the complaint may be, if properly handled and carefully investigated, it can be made of profit to the utility.

Several Types of Contact

There are several kinds of contacts desired, namely: Public relations, securities sales and appliance sales, but if the first is always in mind the others will follow; so perhaps it is best to confine this brief discussion to the public or human relations standpoint. If sound public relations exist, resistance to securities and appliance sales is greatly lessened.

We have two kinds of customers, or rather customer-moods, namely: The habitual or chronic kicker and the customer who has an occasional—real or fancied—complaint. The first class, for the most part, is quite unreasonable in its demands and claims and will not receive your explanations and ideas with an open or receptive mind. Each case must be handled individually, being patient and courteous, striving to find some point of contact, other than the actual business at hand. These contacts are varied; for example: golf, baseball, children—their antics and "cute sayings," and even a pointed story or the Eighteenth Amendment may be used, if necessary. When that contact is discovered, followed up and properly established, the customer's prejudice partly overcome and he is put in a receptive mood—then the utility subject may be broached and disposed of to the complete satisfaction of the customer.

The Reasonable Complainant

The customer who enters your office with occasional complaint—real or fancied—and who is reasonable, should be given the same consideration as the habitual kicker, and possibly a little more, although this type will receive your ideas, see your viewpoint, and be much easier to convince than will the "chronic."

If a department were to be organized in the utility office to be known as the "Contact Department," every person on the entire pay-roll would be a member, from the general manager to the lowest-paid laborer; as in his particular circle, socially, he is "the company," and each worker, if properly informed, will become an active contact point between the company and the public.

We spend thousands of dollars in preliminary engineering and design, when we are considering improvements to physical property, such as lines, power houses, compressor stations and measuring equipment, and think nothing of it; but up to a short time ago little, if any, attention had been paid to the greatest element of all, the human element, in selecting our contact personnel.

Selection of Personnel

Obviously, in selecting a clerk for the service department, investigation must be made of the character and personal reputation of the applicant. Personal appearance must be considered and carefully watched at all times. Nor does this selection stop with the inside contact point. Your outside man, meter setter, meter reader, trouble or service man must present as pleasing and as cleanly appearance as his particular business may permit. Just because a man is setting meters in basements, or out-of-the-way places, does not mean that he should not be cleanly shaven or that his shoes be muddy, tracking

Are You Wasting Gas?
Cut Down Kitchen Overhead!
Reduce Your Gas Bill!
Since such a large portion of the family income is spent in the kitchen, it is obvious that every saving in this quarter is worth while. We believe the following suggestions as to the efficient use of your gas range will prevent waste of gas in your kitchen.
Keep the burners clean by washing them once a month in boiling water and soda. Be sure that all pin holes are open.
Have proper adjustment. A small blue flame with purple edges is best. A yellow smoky flame is wasteful. A yellow flame means not enough air. "Pop outs" mean too much air.
"If it's done with Heat—you can do it Better with GAS"
Where possible, use smaller burners. The simmering burner can save gas for you. Turn off the gas and light it again if necessary. Do not let it burn idly.
If there's anything you don't understand about the operation of your gas range, or you think it needs adjusting, call us up. We want our gas service and your gas appliances to give uninterrupted satisfaction.
Call----------
(Your Name and Address Here)

One Way to Reduce Complaints Is to Teach the Customer How to Use Gas Economically

up the customer's floor, with its ensuing adverse reaction. The point to make sure about is, that each worker should be dressed and should maintain his or her personal appearance in keeping with the nature of his or her respective work.

Nor should appearance stop with the human element. So many utility operators, in maintaining their automobiles, do not pay enough attention to their physical appearance. If an automobile will operate at a reasonable cost and give reasonable service, many executives are satisfied; when an occasional washing and painting will increase the advertising or contact value of this equipment, as well as prolong its life.

Each Employee Represents the Company

As stated before, each person on the pay-roll is "the company" to his or her personal group or circle of friends, and on many occasions, when in a social, fraternal or church gathering, a question involving the company arises, the company member has a splendid opportunity to explain the position of the company on that particular subject and turn a complaint, so to speak, into a very advantageous contact. It is not meant that each member should be thoroughly familiar with the mass of detail in the operation of a utility, but he should be familiar with the "high spots." If, however, he cannot discuss intelligently the question at hand, he should be so familiar with the organization that he will and should, next day, refer this complaint to the proper department for investigation and disposition. Our company has found that inspection trips, member meetings and the publication of a company paper or house organ have informed our members of the company policies, aims and ideas in quite an efficient and effective manner. Such educational media, showing the company's interest in the individual worker, increase his self-respect and interest in the company and its welfare, which makes him a better man and a better worker.

Mail and Telephone Complaints

Complaints are registered in a utility office by mail, telephone or personal call. In any case, a personal call must be made at the customer's premises and a personal interview obtained. It is quite easy for a person to write an uncomplimentary letter or make uncomplimentary statements over the telephone, but when confronted by the proper representative of the company, face to face in his own office or home, his inherent sense of hospitality is aroused and the company representative is almost always invited to enter, sit down and discuss the situation, with usually very beneficial results.

To natural gas men (and to all gas men—Editor), this point of the inspection of premises is most important. The most prevalent complaint, I imagine, is that of the high bill. The best adjustment man available should be assigned to this type of complaint investigation, because it is the source of latent trouble more than any other.

Entering Through the Front Door

You will readily imagine the reaction on the complaining customer if a representative of the gas company, pleasing in appearance and driving a clean, nice-appearing car or truck drives up before the house, rings the front door bell and is admitted to the house through the front door. Entering through the front door has two advantages; First, the investigator has an opportunity to see operating conditions as they really are; and, second, it adds a little dignity to the investigator and places him a little above the average company representative who enters the customer's premises. The investigator should, by all means, interview the husband or wife, as they are the ones who have registered the complaint, and are the ones to be satisfied. We have found it advisable in some cases to make an appointment with the husband, either early in the morning or in the evening, to inspect the premises together, the morning being preferable.

Little Courtesies Often Have Important Effects

Little courtesies and attention sometimes have great effect on vital questions. In a certain town served by our company there lived a man who was seemingly unapproachable and very unreasonable. He always felt that the gas company was robbing him, and on every occasion voiced his sentiments along these lines. As he was a prominent man in the community such statements certainly did not react to the benefit of the company. A company representative, in investigating his high bill complaint, after much persistent effort induced the customer to go to his home and look over the situation. They arrived at noon, just as the noon meal was being prepared. The company man was confronted with extreme antagonism from the wife, due to, as she said, "Too much air in the gas." This erroneous belief resulted from sooting of her new aluminum cooking utensils. A simple adjustment of the mixer, with complete explanation of its operation, removed this trouble, to the gratification of the housewife. This, in turn, reacted very favorably on the husband, resulting in a very thorough, open-minded inspection of the entire gas-burning equipment. The real cause of the seeming high bills was an inefficient appliance installation, which fact was explained to the complete satisfaction of the customer. The company representative listed the appliances to be purchased and work to be done to put the gas equipment in good order, and had the personal satisfaction of assisting in the installation of the complete list. Needless to say, this complaining customer was immediately changed from a knocker to a booster by the simple adjustment of a kitchen range burner, properly followed up.

"Follow-up Card"

During the past few years our company has been using a "follow-up card." The advantages of these cards are obvious, as they give the company an

actual record that the complaint or "request," as we call it, has been taken care of to the entire satisfaction of the customer. Incidentally, many complimentary remarks are noted on these cards, which inspire all organization members to "open the throttle" a little wider. These complimentary remarks also can be used by the publicity department to good advantage. It is possible that these cards might be introduced as evidence in a damage suit; for example, an explosion. I am not positive that such procedure might be legally possible, but it is a point worthy of consideration.

Complaints, if properly handled, have a great value to any business, particularly the utility business, as they give an opportunity of personal contact between customer and company, with a chance to see actual operating conditions in business or home, where a suggestion might effect economies of operation, with ensuing customer satisfaction; or a chance to explain company policies on various phases of the business, or discuss any of the varied problems of the utility company.

Fargo's New Gas Plant Operates *

A description of a continuous vertical retort installation

Louis Stein

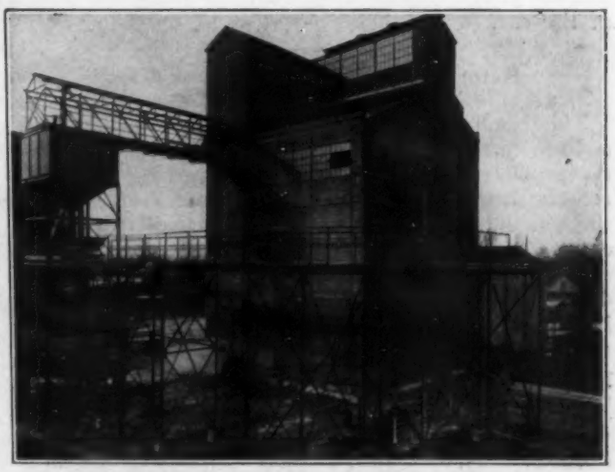
Gas Engineer Northern States Power Company

BOY, page Sir Arthur Conan Doyle and tell him to invite the shades of the early inventors of coal gas to include in their itinerary of ethereal wanderings, one metropolitan city of the Commonwealth of North Dakota, to wit, Fargo, lest they overlook one brand new plant devoted to distillation —the destructive distillation of coal in vertical retorts, producing therefrom two important "servants" for the people of Fargo, namely: coal gas and vertical retort coke, the two fuels of the future as well as the present.

Without much ado or ostentation the new plant went into service on January 15, 1926. Simultaneously with the inauguration of the new equipment obsequies were held for the old retort house, the apparatus in which is of a type which for years has been an everlasting monument to the work and research performed over one hundred years ago by William Murdock, an employe of James Watt, of steam engine fame, and Frederick Albert Winsor, a German who obtained the first English patents for gas making, May 18, 1804.

The New Plant

Sometime in the very near future all of the old benches—not the kind you see in the parks or under the old apple tree—will be razed to the ground, and little mute evidence will remain of the gas manufacturing equipment heretofore used in Fargo to supply its gas requirements. The new plant, known as the Glover-West Continuous Vertical Retort, is the only one of its kind in Central United States. The order for this plant was placed by the Byllesby Engineering and Management Corporation with the West Gas Improvement Company of America, in the spring of 1925. Result: it stands today practically one hundred per cent. complete, and giving plenty of evidence that it will perform in accordance with expectations.



The Vertical Retort Plant at Fargo

The installation at Fargo represents the best thought in continuous vertical retort coal carbonization. It consists of three benches of four retorts each, with self-contained producers. Coal is delivered in railway cars to a track hopper near the retort house and coal storage, thence through an apron feed and crusher to a gravity discharge conveyor which takes it to the overhead coal bunkers. These bunkers have a capacity equivalent to forty-eight hours' storage. All surplus over that required to fill the

* From "Safety Service"—April, 1926, issue.

bunkers is discharged through two enclosed chutes to the coal store, adjoining the retort house.

Feeding the Coal

The coal is fed from the bunkers to the tops of the retorts, the control being operated manually by means of a coal valve, located on the upper operating platform. Coke, of course, is being continuously discharged at the bottom of the retorts into the coke chambers by means of large, slow-moving extractors which resemble very large augers in appearance. The coke chambers are emptied approximately every two hours by the simple process of opening the doors and permitting accumulated coke to drop into coke cars or buggies. No quenching with water is required, since steam is used for that purpose during process of carbonization.

After the coke wagon is filled it is pushed along an industrial track onto the platform steam-operated elevator, and thence taken to the upper coke runway and moved out over the outdoor coke hopper, into which it is discharged by merely releasing a lever on the coke car. Trucks or wagons may be filled from the outside coke hopper by driving under the loading chute attached to it and releasing the coke by the operation of a lever-controlled valve. Surplus coke is stored by dumping from the same hopper at an upper level into another coke car operating on a trestle twenty-five feet above the ground. This car may be moved to any position on the trestle and the coke released therefrom by tilting the body of the car.

Retorts Heated With Producer Gas

This briefly describes the handling of the fuel and coke with the exception of the coke used to feed the producers. It should be said in passing that the retorts are heated with producer gas (this is not the gas made in the retorts for city distribution) evolved from the low temperature combustion of coke in the producers referred to in the foregoing description. The gas made in the producers passes into the combustion chambers surrounding the retorts, where secondary air is admitted to permit its combustion and thereby provide the heat necessary to distill the coal.

The temperatures maintained in the combustion chambers vary between 2100 and 2500 degrees Fahrenheit. Of course it is necessary to regularly replenish the fires in the producers. This is done by means of what is known as a "skip." This is simply a small steel hopper suspended from an overhead rail on which it moves. When it is necessary to fill the skip it is pushed by hand to a position immediately under the discharge gate of an indoor coke bin, which itself is filled from an upper level with coke taken from the coke chambers of the retorts. The specific operation of placing coke in the producers is simplicity itself. The skip, after being filled as previously described is moved back to a position immediately over the producer from the top of which the cover has been previously removed and the coke is dropped into it by gravity by the releasing of a gate on the bottom of the skip.

The Gas

So much for the handling of the solid fuels. Since the coal is fed into the tops of the retorts continuously and descends into them at a rate directly proportional to the speed of the coke extractors on the bottom it is obvious that the gas being driven off or distilled from the coal is likewise continuously produced. It is "pulled" along its course through a series of collecting mains and a "foul" main, thence out of the retort house through an especially constructed gas main over into the existing condensing and scrubbing apparatus in the same manner that gas from the old horizontal retorts passed from them to the condensing apparatus. Needless to say, the same equipment used for condensing and purifying the gas as previously made is being used for the gas now produced.

The new process, quite in contrast with the old, has eliminated the laborious and intermittent process of feeding coal into the retorts by hand, and manually removing the coke from them, not to mention the comparatively awkward method of replenishing producer fires, as well as the hand method of quenching white hot coke with water. The new plant is clean, employs a clean process, free from flame and smoke, is substantially automatic in its operation and produces gas which is more uniform in quality than that which is possible through any intermittent coal gas process.

Another View of the Fargo Plant

Apparatus Very Quiet

Unless previously informed of the fact, a visitor would not be aware that gas was being made. The

(Continued on page 574)

As The Journal Views It

IMPROVE YOURSELF

All who are anxious to succeed are fully aware of the necessity first of knowing our limitations, and then proceeding to improve ourselves and to overcome these limitations as far as possible. It is, of course, a fact that it is not so much what we know that gains our success for us, as our ability to use the knowledge that we possess. Nevertheless, we cannot produce results unless we have the wherewithal with which to work.

The gas industry is indeed fortunate in being able to offer its men such splendid opportunities for improving themselves as are available today. Gas men are to be congratulated on having this opportunity and are expressly urged to take every advantage of them that they can. It is only when we step out of our own industry and compare the educational opportunities that are presented to others that we begin to realize how far the gas industry has progressed in this direction. It is not necessary to go into details but attention may simply be called to a number of articles which appeared recently in the American Gas Journal, depicting the educational work of the Baltimore Gas Company to show what one gas company has done for its employes and how far the gas industry is willing to go to see that the men connected with it are afforded every chance to improve themselves.

It is interesting to read in this connection an editorial which appeared in the June issue of the "Water, Light Beacon," which is printed herewith.

"The advertisement of a well-known educational course says that in 1920 the president of a large concern suggested to nine of his employes that they enroll in this course. Three followed his advice, and are now president, secretary-treasurer, and advertising manager of the concern. The other six did not have enough interest in their business future even to investigate the course; none of these six is with the concern now.

"If we wish to advance we must not only do the work assigned to us well, but we must study.

"Studying does not necessarily mean reading books.

"A great deal can be learned by exchanging experiences and ideas with others in the same line of work. Hence we have conventions and trade magazines. Much can be learned also by listening to the friendly advice of those who have had more experience than we.

"In some manner or another, if we wish to advance, we must learn more about our business. There is much more to the utility business than the actual making and distribution of gas and electricity. The executive at the head must know a great deal about financing and accounting, about selling, about employees contented, about having satisfied customers, and about selecting competent assistants.

"No matter how much we know, or think we know, and regardless of whether or not we have had the advantage of university education, we have a great deal to learn. Naturally, the more we know about our business, the more valuable we are to our employers.

"In our own company, we have a large number of employees who are working hard to learn more, to make themselves more useful, and to prepare for advancement. Some are studying electrical engineering, some meter work, some accounting, some are taking commercial courses, and some are studying business courses; others, while not taking up specific educational courses, are improving themselves by reading technical magazines and books, and seeking the advice of people of greater experience.

"On the other hand, there are some whose chief concern is watching the clock to see that they do not work a minute overtime; and some who have no use for additional information, or friendly advice.

"In this, as in any other progressive concern, those who prepare themselves for advancement will receive it; while those who are content with their present knowledge will never advance."

In closing we wish to make one suggestion, and that is that the gas men take the time and make the effort to become acquainted with their trade

papers. There is much in these Journals that will be of interest to them. There are many ideas which they can obtain which can serve them a good turn. The pages of the trade paper, after all, constitute a running history of the progress and development of the industry and act as a very useful supplement to whatever other educational work the gas industry is doing.

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FARGO'S NEW GAS PLANT OPERATES

(Continued from page 572)

apparatus stands and operates quietly, giving no outward indication of the important chemical transformations proceeding within. While the operation is simple and unobtrusive, and the operator on duty has no laborious tasks, he is nevertheless a very busy person. The temperatures of the setting must be carefully watched lest they become too low for efficient operation or possibly too high for the silica material of which it is built. That is not all. Pressures on the retorts must be frequently observed in order that there shall be a minimum fluctuation. This, of course, is closely tied in with the operation of an automatic retort house governor. The operator has before him constantly the remote indicator lights of the recording calorimeter, which instrument is located in the booster and meter building, and indicates and records continuously the heating value of the gas made. Slight changes are at once apparent through the system of colored electric lights in the retort house and the operator is thereby enabled to make such adjustments in his apparatus as are necessary to bring about any desired change.

Steam Used to Quench Coke

Mention was made of the use of steam in the coke chambers for the quenching of coke. The steam so required will be furnished by a waste heat boiler which converts the heat otherwise wasted to the plant chimney into useful steam. The boiler is located near the first landing of the house and will be conveniently accessible for repairs, cleaning and operation.

Accompanying photographs give one a fair idea of the appearance of the plant from the outside. It will be observed that, while little ground space is occupied, the building towers well toward the clouds. It is finished with a handsome brick and is an example of good industrial architecture in so far as gas plants are concerned. Fargo should be proud of it. At some future date it is planned to reproduce views of the interior of the plant.

It will thus be seen that at least one of the Northern States Power Company's plants takes its rightful place in the forefront of the ever-increasing group of utilities bent upon giving its customers the very best possible service in the most efficient manner.

Conclusion

For too many years the gas industry has been the personification of conservatism. Like China, however, it has emerged from its lethargy and has fully sensed its gigantic possibilities for service to mankind, not only to present generations but to those yet unborn. Its field of usefulness is increasing with a rapidity never dreamed possible heretofore. Developments in gas technology are taking place with such startling activity that it is difficult to keep abreast of them. Simultaneously, appliances for the utilization of gaseous fuel are becoming more and more efficient. Pause a moment to reflect upon the fact that there are over 1,500 different industrial applications of gas, yet only about 20 per cent. of the available industrial gas business of the country has been obtained. These applications run a whole gamut of processes from the growing of the delicate orchid (requiring seven years of careful nurture with precise temperature regulation) to the manufacture of the largest steel tools of industry. The diversified domestic use of gas is well indicated by the fact that there are in use in the United States nearly 10,000,000 gas stoves, 3,400,000 water heaters and 4,400,000 space heaters. Last year there were sold 800,000 gas ranges, 450,000 water heaters, and 500,000 space heaters. Besides, gas-fired house-heating installations are proceeding at the rate of 100,000 a year.

Congratulations and felicitations to Fargo; not forgetting for a moment the purposeful countersign of the gas industry: "If It's Done With Heat, You Can Do It Better With Gas."

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INDUSTRIAL GAS USE UP 2,000 PER CENT. IN 10 YEARS; USED IN 20,000 PROCESSES

Gas for industrial heating has increased 2,000 per cent. in the last ten years and is at present employed in carrying out more than 20,000 trade processes throughout the world, according to the Pennsylvania Public Service Information Committee.

A few years ago such use of gas was almost unknown; now huge burners in factories and mills are in many cases consuming more gas than is consumed by the average city of 50,000 inhabitants.

Gas is cutting the cost of things we eat. It has made hot water a common convenience and has reduced the expense connected with hatching eggs, baking bricks, manufacturing cans, annealing wire and steel, melting lead and doing scores of other operations that bear heavily on the cost of living.

It is estimated that approximately one billion dollars are lost each year by extravagant and inefficient use of fuel, the greater part of which loss is due to waste in combustion. Substitution of gas for crude fuels has enabled manufacturers to turn out a better product at the same price or the same product at a lower cost. In many cases new gas-burning equipment has actually paid for itself in the first twelve months of its use.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 125

Combustion

Composition of Oils

Another tabulation which shows the composition and various properties of different petroleums, is given in the following tabulation:

Nature of Crude Oil	Specific gravity	Temp. in F	Ultimate Composition C	H_2	O_2+N_2	S	Per cent. water	B.t.u. per pound High	Low
California crude oil.....	0.9533	60	85.75	16.85	11.3	....	0.67	19,356	18,363
Pennsylvania	0.914	70	86.1	23.18	13.9	....	0.06	20,949	19,735
Russian, crude light.....	0.882	32	87.4	28.73	12.5	0.1		20,289	19,198
Kansas	0.861	32	86.2	32.60	13.3	0.5		21,200	19,439
Texas	....	60	85.66	11.03	3.31			19,145	18,172
Borneo	....	60	87.8	10.78	1.24			19,305	18,364

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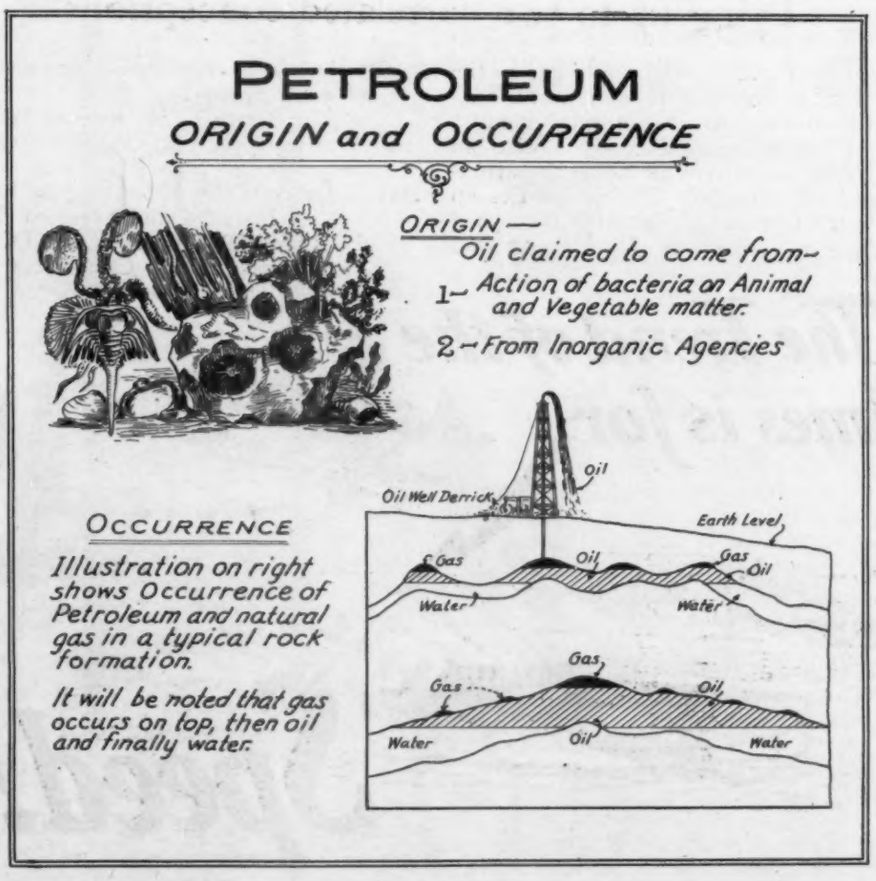

papers. There is much in these Journals that will be of interest to them. There are many ideas which they can obtain which can serve them a good turn. The pages of the trade paper, after all, constitute a running history of the progress and development of the industry and act as a very useful supplement to whatever other educational work the gas industry is doing.

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FARGO'S NEW GAS PLANT OPERATES

(Continued from page 572)

apparatus stands and operates quietly, giving no outward indication of the important chemical transformations proceeding within. While the operation is simple and unobtrusive, and the operator on duty has no laborious tasks, he is nevertheless a very busy person. The temperatures of the setting must be carefully watched lest they become too low for efficient operation or possibly too high for the silica material of which it is built. That is not all. Pressures on the retorts must be frequently observed in order that there shall be a minimum fluctuation. This, of course, is closely tied in with the operation of an automatic retort house governor. The operator has before him constantly the remote indicator lights of the recording calorimeter, which instrument is located in the booster and meter building, and indicates and records continuously the heating value of the gas made. Slight changes are at once apparent through the system of colored electric lights in the retort house and the operator is thereby enabled to make such adjustments in his apparatus as are necessary to bring about any desired change.

Steam Used to Quench Coke

Mention was made of the use of steam in the coke chambers for the quenching of coke. The steam so required will be furnished by a waste heat boiler which converts the heat otherwise wasted to the plant chimney into useful steam. The boiler is located near the first landing of the house and will be conveniently accessible for repairs, cleaning and operation.

Accompanying photographs give one a fair idea of the appearance of the plant from the outside. It will be observed that, while little ground space is occupied, the building towers well toward the clouds. It is finished with a handsome brick and is an example of good industrial architecture in so far as gas plants are concerned. Fargo should be proud of it. At some future date it is planned to reproduce views of the interior of the plant.

It will thus be seen that at least one of the Northern States Power Company's plants takes its rightful place in the forefront of the ever-increasing group of utilities bent upon giving its customers the very best possible service in the most efficient manner.

Conclusion

For too many years the gas industry has been the personification of conservatism. Like China, however, it has emerged from its lethargy and has fully sensed its gigantic possibilities for service to mankind, not only to present generations but to those yet unborn. Its field of usefulness is increasing with a rapidity never dreamed possible heretofore. Developments in gas technology are taking place with such startling activity that it is difficult to keep abreast of them. Simultaneously, appliances for the utilization of gaseous fuel are becoming more and more efficient. Pause a moment to reflect upon the fact that there are over 1,500 different industrial applications of gas, yet only about 20 per cent. of the available industrial gas business of the country has been obtained. These applications run a whole gamut of processes from the growing of the delicate orchid (requiring seven years of careful nurture with precise temperature regulation) to the manufacture of the largest steel tools of industry. The diversified domestic use of gas is well indicated by the fact that there are in use in the United States nearly 10,000,000 gas stoves, 3,400,000 water heaters and 4,400,000 space heaters. Last year there were sold 800,000 gas ranges, 450,000 water heaters, and 500,000 space heaters. Besides, gas-fired house-heating installations are proceeding at the rate of 100,000 a year.

Congratulations and felicitations to Fargo; not forgetting for a moment the purposeful countersign of the gas industry: "If It's Done With Heat, You Can Do It Better With Gas."

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INDUSTRIAL GAS USE UP 2,000 PER CENT. IN 10 YEARS; USED IN 20,000 PROCESSES

Gas for industrial heating has increased 2,000 per cent. in the last ten years and is at present employed in carrying out more than 20,000 trade processes throughout the world, according to the Pennsylvania Public Service Information Committee.

A few years ago such use of gas was almost unknown; now huge burners in factories and mills are in many cases consuming more gas than is consumed by the average city of 50,000 inhabitants.

Gas is cutting the cost of things we eat. It has made hot water a common convenience and has reduced the expense connected with hatching eggs, baking bricks, manufacturing cans, annealing wire and steel, melting lead and doing scores of other operations that bear heavily on the cost of living.

It is estimated that approximately one billion dollars are lost each year by extravagant and inefficient use of fuel, the greater part of which loss is due to waste in combustion. Substitution of gas for crude fuels has enabled manufacturers to turn out a better product at the same price or the same product at a lower cost. In many cases new gas-burning equipment has actually paid for itself in the first twelve months of its use.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 125

Combustion

Composition of Oils

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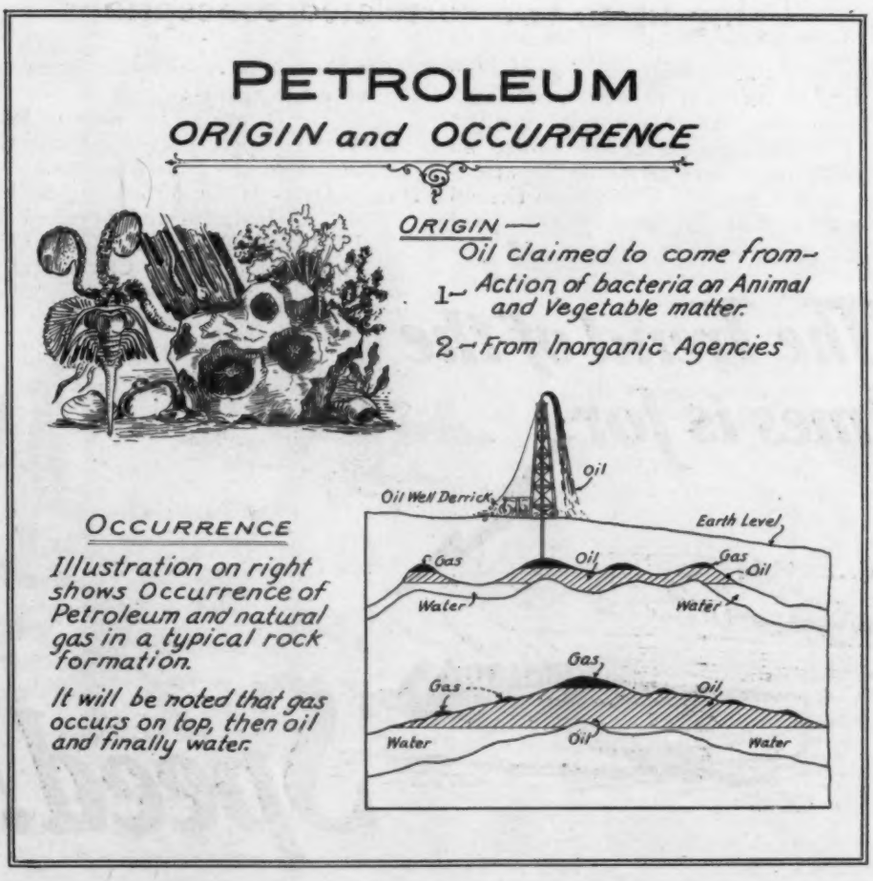

21,000 B.t.u. per pound. The specific gravity of oils varies likewise and as has been mentioned above, as a general rule the lower the specific gravity of the oil, the more low boiling ingredients it contains and the greater the yield of gasoline and kerosene in the distillation process.

Origin of Petroleum

Only a word can be said regarding the origin of petroleum. Numerous theories have been advanced and in general it has been held that petroleum was formed either through the agency of living organisms such as bacteria on animal or vegetable matter, or without the aid of living organisms from inorganic substances. The most plausible of the theories is the one that traces the formation of petroleum to the decomposition of immense quantities of gelatinous algae or marine vegetation. It would appear from careful study that it is most likely that petroleum originated from organic substances. When the petroleum contains a large amount of nitrogenous substances, then it is likely that it developed from the decomposition of animal matter; otherwise, it is most probable that the original matter was of vegetable character.

Occurrence of Petroleum

As far as the occurence of petroleum is concerned, it is interesting to the gas man to know that oil, gas—that is, natural gas—and water are found together in the majority of oil wells. The oil is contained in an oil sand which is in reality a porous rock and this rock is generally covered with an impervious shale which prevents the petroleum from escaping. Gas, oil and water are found in the deposit separated according to their specific gravities. The gas is, naturally, on top; then comes the oil and finally the water. Thus, when the well is opened up, there is first a great gush of gas, which, of course, may carry oil along with it. Thereafter, the oil flows out, or must be pumped out, and finally the water is reached. Of course, it often happens that the water is drawn out along with the oil, and must be separated from it before the oil can pass into the pipe line.

Gas and Speed

Tying up to two correlated conceptions

AS one of the outstanding features of gas as the superior fuel is speed, it is well worth constantly hammering on this special quality. In a recent Portland newspaper we notice an advertisement which must have attracted the attention of even the busiest reader. The design ties up the aeroplane, auto and motorboat with the speed of gas for cooking in such a way that even he who runs may read.

The design is reproduced herewith. Under this cut were the words:

That Is One Reason Why
THE MODERN SMOOTHTOP GAS RANGE
Is So Popular.
Has All Other Modes of Cooking Backed Off the Map.
Installed and Serviced By
PORTLAND GAS & COKE COMPANY.
"Hawkeye Reminder" Clock Free This Week.

GAS MERCHANDISING

Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

YOU CAN'T MISS THIS LACLEDE AD

THE Laclede Gas Light Company, St. Louis, is running a series of industrial gas advertisements that are hard to miss. St. Louis department stores have been on an advertising spree lately and it is mighty easy for the small advertisement, poorly laid out, to get lost in the maze of "gigantic bargain, end-of-month and anniversary sales" advertisements. But it's mighty hard to lose a properly designed advertisement like the one reproduced on this page, and we are passing it along to "the elect" in case they may be confronted with the same problem the Laclede folks had to solve—that of getting attention in spite of sprees and sections devoted to department store advertisements.

The Advantages of GAS in Manufacturing
1 Dependable
Any hour of the 24, any place in St. Louis, and as much as you can use.
2 Controllable
Exact temperatures may be maintained, exact quantities used may be measured (Your cost can still be that!)
3 Economical
Gas has the lowest final cost per unit of production. Advantages that no other form of heat offers.
The Laclede sells gas cheaper than any other American Company making all its own gas.
4 Clean
Comfortable factory working conditions. Saves your factory from being objectionable. No smoke or soot.
INDUSTRIAL DEPARTMENT
The LACLEDE Gas Light Company
OLIVE AT ELEVENTH · · · CENTRAL 3800

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WHEN TO HAVE SALES?

THE question is frequently asked, "What is the best time to have sales?" and while we have answered "every day," we realize that is not exactly the reply looked for. For as a rule the sales-manager, asking the question, refers to the day of week or part of the month or month of the year. While we are of the opinion that every day should be a sales day, that in putting on special drives it is well to consider pay days, in most any city and especially so in the industrial centers; it is also well

to give thought to whether your town is a "Saturday town" or whether the buying habits of your citizenry makes some other time their purchasing or marketing day. In campaigning always bear in mind that notwithstanding the time payment plan and its operation, ready money buys merchandise. Include a pay day or two, even if it is only a pay day for you, the last discount day, when you are sure to have more people in your store than on the average day.

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WOMEN AND WATER HEATERS

AGAIN someone has asked: "Do men or women make the best sales talks and who sells the most water heaters?" We are not able to say, but we do know that one young woman led the bunch in a recent circulating heater sale. To be sure she was on the floor while the men were in the field. On the other hand, we know of another instance where the men of a floor organization led

Women and Water Heaters

the women in the sale of automatic instantaneous water heaters two to one. The question deserves thought and indicates that some sales-managers are doing a lot of thinking about the job of selling.

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HOUSEHEATING BY GAS CHEAPER THAN COAL IN INSULATED HOMES

A SEVEN-ROOM house, automatically heated this winter by a gas boiler at a cost lower than coal, has attracted thousands of Chicago people in the past few weeks, as it heralds a possible saving of at least 30 per cent. and probably 50 per cent. in the nation's fuel bill. The house is insulated with a patented material which accounts for the saving, according to gas heating experts.

The insulating material comes in bags, like cement, and is mixed with water. It is poured down inside the walls and allowed to set. It hardens into a porous and spongelike mass, filled with millions of tiny air cells. The outside walls are covered with sheathing and shingles. The inside walls are covered with a gypsum wallboard. The space between the roof rafters is insulated the same as the side walls. There are two inches of insulation beneath the lower floor to keep the floor warm and the basement cool.

The house is located in one of Chicago's forest preserves, where temperatures are several degrees lower than in the crowded city districts.

In a thorough test made this winter automatic thermostatic control maintained a constant temperature of 70° from 4:00 A. M. to 10 P. M., and 60° during the night. With gas selling at 75 cents a thousand cubic feet, the fuel cost from October 1 to February 1 was $110, with an estimated cost for the entire winter of $160. Gas engineers claim that it would have cost more than $350 to heat the house if it were not insulated.

Another interesting development was that the insulation made it possible to use gas at a lower cost than coal. There was no furnace tending, dirt, ashes or soot. Fuel bins were eliminated and the basement floor was waxed and used for dancing and other functions. The gas boiler occupied only a small amount of space.

Gas engineers estimate that to heat an uninsulated house of the same size, 29 feet x 40 feet, with five rooms downstairs and two upstairs, would require a boiler with a rating of 1,150 feet and a direct radiation capacity of 575 feet. Figuring on the insulation, however, they guaranteed that a small garage or hot water heater, with a rating of 425 feet and a direct radiation capacity of 213 feet, would keep the home at the constant temperature of 70°.

The insulation proved so successful that snow remained on the roof for days, until melted by the sun, while the roofs of nearby houses were cleared by the heat leakage.

An insulated house will more than pay the cost of insulation through fuel saved in the first three years, according to a recent report of the United States Bureau of Industrial Research. Heat, the report states, leaks through lumber, brick and stone, just as it does through glass, though not so fast.

The cost of the insulation was $435, and approximately the same amount was saved at the start on the cost of the heating plant, since it was possible to install a smaller unit.

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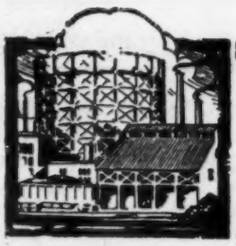
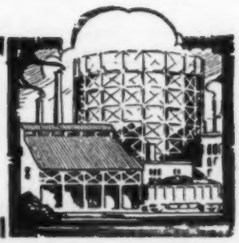
Three Ways
to Speed up the
Wash-Woman-by-the-Day
and Save Money
1. Ready hot water on tap from an Automatic Gas Water Heater . . . no waiting . . . no delay.
2. A Gas Heated Clothes Dryer . . . the linens dry while the starched pieces are being washed. No worry about rainy weather. Everyday is a "good drying day".
3. Clothes dry and ready to iron on the Gas Heated Ironer. This appliance cuts down ironing time to one-third. New design ironer—easy to operate.
This is LAUNDRY EQUIPMENT week at our store!
Now is the time for all good housewives to come in and have a look at the efficient gas laundry equipment on display.
On wash day "You can do it Better with GAS"
(Your Name and Address)
A.G.A.-577
A recent national investigation carried on by a manufacturer revealed that the majority of women who purchase these expensive laundry appliances hire washwomen, and what they seek is some means of speeding up the laundress so that she can accomplish more in a day's time.

Gas Can Be Used to Advantage on Wash Day Not Only to Heat Water in Washing but Also to Heat the Clothes Drier and the Iron



NEWS OF THE GAS INDUSTRY



Women's Section of Empire State Association Hold Meeting at Niagara Falls

The Women's Section of the Empire State Gas and Electric Association held their annual conference at Niagara Falls on June 10 and 11. One hundred and forty-three women delegates from all parts of the state registered for the meeting.

Miss Sara Harris of the Utica Gas and Electric Company, chairman of the section, opened the meeting with a review of the history and organization of the women's section.

Interesting Program Presented

A most interesting program was arranged, consisting principally of talks on educational work, public relations and the place that women are filling in the gas and electric industry.

Mr. Martin Clark, assistant counsel of the Niagara Falls Power Company, welcomed the delegates on behalf of his company and spoke on the remarkable growth of the women's section and the splendid work being accomplished by it and its opportunities for further usefulness. Miss Marie Reith, commercial engineer of the New York Edison Company, spoke on the economy of keeping house electrically.

Miss Ann Lincoln, secretary of the women's section, reported on the activities of the various districts of the women's section and indicated the growth and increasing influence of this section.

"Why a Women's Section?"

E. C. Scobell, president of the Empire State Gas and Electric Association addressed the meeting on the subject, "Why a Women's Section?"

Mr. Scobell told of the plans the women have in business and the use of the women's section in broadening the vision of its members to the end of making women more valuable to the industry.

Miss Helen Smith of Rochester Gas and Electric Company then spoke on the work being done by her company in giving talks and lectures on the company activities, as well as the use to which gas and electricity can be put in the home. Miss Smith stated that the greatest problem was to get an audience, and this, she said, was hard at first but became less difficult when it became better known among home bureaus, churches, clubs, etc., just what was going to be said and done and when all that was promised was faithfully fulfilled.

Educational Work

Miss Elizabeth Sweeney of the Empire Gas and Electric Company, presented a paper on "Educational Work Among Employees." The major problem of the public utilities is to win public confidence, said Miss Sweeney. If the company, through some medium, can give its employees a vivid picture of the standards of service and policies which it wants and intends to pursue, then it will have established a splendid tool for increasing public confidence. Complete co-operation and loyalty of employees are necessary for the establishment of good public relations. Employees reflect the ideals and policies of their superiors, said Miss Sweeney, and educating them in ideals and aims of the company is essential to the success of the company and its employees.

Public Relations

George S. Anderson, manager of the Public Relations Department, Niagara Falls Power Company, spoke on public relations. "Good public relations are not achieved through big things but by a multitude of small things," said Mr. Anderson. "You must render the right service and it has to be rendered because it's right. We should attempt to know all we can as employees, about the institution we serve, the industry in which we are engaged and the other fellow's job around us. Every employee is a direct public contact and represents cross sections of the general public, and it is up to executives, therefore, to see that employees are given every opportunity to know all about their company and their business."

Mr. Anderson spoke of 60,000 visitors to the plants of his company and stated that this year they expected twice that number.

The Woman In Business

Miss Evangeline Whittemore, of the Spirella Company, spoken on "Women in Business." Miss Whittemore spoke on the plan of women in business and her remarkable influence over the comparatively few years of her business life. Men have opened the door wide for women to make a success of business, said Miss Whittemore. Men have wider viewpoints because of their longer experience, she declared. Up to a few years ago this was a man-made world outside of the home, but women in business are fast widening their viewpoint and we are coming to an age of co-operation.

Elections

A report of the nominating committee indicated the choice of Miss Sara Harris of Utica as chairman for a second term, and Miss Marie Reith of the New York Edison Company as vice-chairman.

A telegram was received from Miss Mary Dillon, president of the Brooklyn Borough Gas Company, expressing her regret at not attending the meeting and wishing the women's section continued success.

Entertainment Features

Thursday afternoon the delegates visited the plant of the Niagara Falls Power Company and through the courtesy of the company were taken on a bus trip to various points of interest. In the evening they were guests of the Niagara Falls Power Company at a dinner at the Niagara Hotel. W. K. Bradbury was toastmaster,

and able and interesting addresses were delivered by the Hon. A. Monro Grier, K.C., president of the Canadian Niagara Power Company; Miss Anne Rae, president, Niagara Falls Building and Loan Association, and Miss Elizabeth Lee, chairman, Women's Committee, National Electric Light Association.

After dinner the delegates were taken on a trolley trip down Niagara Gorge to view the illumination of the Falls.

It was the consensus of opinion that the meeting was a complete success and not only has the value of the section to the industry been indicated but the information and inspiration received by the women delegates will prove of great value to them in their future activities.

* * *

Gas Company Bids For Street Lighting

Albany, N. Y.—The board of contract and supply has received the bid of the Municipal Gas Company for lighting the city streets and park for the next five years. The rates offered by the gas company are the same as those paid under the existing contract, made in 1921.

It was learned at the city hall that Mayor Thacher had told officials of the gas company there must be no rise in the present scale, which is 8½ cents per lamp per night for the 100 candle-power lamps, 12½ cents per night for the 250 candle-power and 20 cents per lamp per night for the 600 candle-power.

In a letter to Mayor Thacher accompanying the bid, William G. Furlong, president of the gas company, said the company would soon be compelled to decline to install boulevard lights in any streets except those new streets for which boulevard lights are especially suitable.

* * *

Milwaukee Gas Company Planning New Mains

Milwaukee, Wis.—Rapid growth of Greater Milwaukee is evident from the extension program of the Milwaukee Gas Company, in the laying of forty miles of mains, costing in excess of $1,000,000. More than 5,000 patrons will be added.

The company will not build a new gas plant this year, according to President R. B. Brown. Present equipment is fully adequate to meet growing service demands.

One of the most important extensions is the main running to the Whitefish Bay district as far as Day Avenue and Lake Shore Drive, the main supply pipe being completed with many laterals being laid.

Many miles of mains are being laid in the district north of North Avenue and Wauwatosa, where there is a big building program. Other districts in which there are extensive developments are in Bay View and southwest of West Allis.

While the use of gas for heating is coming into gradual use, it was declared that the company would not push this form of business.

"An extensive use of gas for heating would overbalance production," said Mr. Brown.

Consolidated Gas Outlines Plans

New York, N. Y.—Expansion of the Consolidated Gas Company has been outlined by George B. Cortelyou, its president, in a letter issued to stockholders with the quarterly dividend checks. He reports that the company has an investment of $600,000,000 in land, plants, buildings and equipment.

"In addition to our already great manufacturing stations, which are among the largest in the world, there is being constructed at Hunt's Point in the Bronx a gas plant, the first unit of which will have a daily capacity of 20,000,000 cubic feet," says Mr. Cortelyou. "At Fourteenth Street and the East River, Manhattan, there is being built a giant central station which, when completed, will have a total capacity of approximately 1,000,000 horsepower.

"Finally, the growth of our clerical force makes it necessary to extend our present general office building."

The Consolidated's East River electric station will be the largest central station in the world, with twice as much capacity as the largest station in Europe and 100,000 more kilowatts capacity than projected developments at Muscle Shoals. The first unit of the new gas plant in the Bronx will use about 1,750 tons of coal daily and produce 1,200 tons of coke. This fuel will be used at other of the company's gas plants, thus reducing their fuel bills.

Boston Company Seeks New Gas Contract

Boston, Mass.—The State Department of Public Utilities gave a hearing on the petition of the Boston Consolidated Gas Company for approval of a contract under which it will purchase gas from the New England Fuel & Transportation Company at a rate of thirty-five cents a thousand cubic feet. The contract calls for 25,000,000 cubic feet of gas per week, and under the contract for the past year has been at a rate of thirty-seven and one-half cents per thousand.

Dana Barnum, president of the Consolidated, presented a brief in which it was stated that the cost of manufacturing gas by the Consolidated would be 37.88 cents per thousand cubic feet, without taking into consideration the interest and other charges on a new coal gas plant which would have to be erected.

The sliding-scale act, governing rates of the Consolidated to the consumer, was repealed by the Legislature at the last session, the repeal act going into effect during the first week of July. At that time the company proposes to go before the Utilities Department with a new rate proposition, and will inaugurate a campaign for the use of gas in home and industrial heating.

New England Gas Association Directors Make Auspicious Start

New Haven, Conn.—The board of directors of the New England Gas Association held their first meeting in New Haven on June 17th. If this meeting may be taken as an indication, then the New England Gas Association is assured of an administration by a very enthusiastic group of gas men. Every member of the board was present, which speaks well for the spirit of the men, for some of them were put to no little inconvenience in coming to this meeting.

Those present were: F. C. Freeman, Providence, president; William Gold, Boston, vice-president; J. A. Norcross, New Haven, vice-president; F. D. Cadwallader, Boston, treasurer; J. J. Quinn, Quincy, and H. N. Cheney, Boston, directors-at-large; E. L. Woods, Springfield, president of the Industrial Division; M. B. Webber, Boston, governor of the Sales Division; G. W. Stiles, Portland, president of the Operating Division, and E. A. Taylor, Providence, acting secretary.

Through the courtesy of Mr. Norcross the meeting was held in the directors' room of the New Haven Gas Light Company. Mr. Norcross made everything very pleasant and comfortable for his visitors and it was agreed at the conclusion of the meeting that he and the New Haven Gas Company had set a high standard of hospitality for the other members to maintain at future meetings. It is the intention of the board to hold their meetings in the various home cities of the directors, in this way giving the members an opportunity to see what is being done elsewhere in the industry.

During the meeting considerable discussion was given to various parts of the constitution and a number of matters relative thereto were decided upon. Plans for a campaign to secure company members were discussed and it is expected that this work will get under way within the next month. Gas companies in New England and companies who manufacture or sell in New England appliances or supplies pertinent to the gas industry are to be invited into the new association.

The next meeting of the board will be held in Portland, Me., early in the Fall.

Southern Counties Gas Reports Earnings

Los Angeles, Cal.—Net earnings of the Southern Counties Gas Company of California for the four months ended April 30, 1926, totaled $838,380, compared with $702,672 for the corresponding period of 1925. The increase in net earnings for the first four months of this year is equivalent to $135,708, a gain of more than 19 per cent. over the same months last year.

Gross earnings for the four months aggregated $2,183,563 against $1,994,407. It represented an increase of $189,155, or over 15 per cent. compared with the corresponding months of 1925. The statement shows a balance available for dividends on the company's $2,500,000 par value of 7 per cent. preferred stock and $1,500,000 par value of common stock, of $360,417.

Since the first of April all of the company's 8 per cent. preferred stock, which was outstanding in the amount of $1,250,000 par value, has been called for retirement. With the exception of a small amount of this stock which has not yet been surrendered, all of it has been paid off. At the same time, the company has issued $1,250,000 par value of its 7 per cent. preferred stock, to provide funds for the redemption of the old 8 per cent. stock. As a result of this operation, the company's capital structure now comprises $11,158,200 in bonds and notes outstanding, and $4,000,000 in preferred and common stock.

Southern Counties Gas Company is controlled through stock ownership by Pacific Lighting Corporation which owns all of the common stock. Consequently, the only capital stock outstanding in the hands of the public is the $2,500,000 of 7 per cent. preferred stock. These shares are now selling to yield about 6 2/3 per cent. In 1925 the company earned $24.62 a share on the preferred stock now outstanding, about 3½ times dividend requirements.

The detailed earnings statement for the four months ended April 30, 1926, follows:

Gross earnings	$2,183,563
Operating expenses and taxes	1,345,183
Net earnings	$838,380
Bond interest	199,284
Non-operating expense and amortization	52,675
Balance	$586,421
Depreciation	226,102
Balance for dividends and surplus	$360,319

* * *

Rates Filed by City Gas Company

Antigo, Wis.—The City Gas Company, Antigo, Wis., has filed with the Railroad Commission of Wisconsin a new schedule of rates, which has been approved under date of June 1st by the commission.

The new rates are:

First 2,000 Cu. Ft.	$2.45
Next 3,000 " "	2.25
Next 5,000 " "	2.00
Next 10,000 " "	1.80
Next 30,000 " "	1.60
Over 50,000 " "	1.40

Subject to 10c per M. if paid before the twenty-fifth of the month.

The idea of the new schedule is to bring in more restaurant, hotel and industrial business.

The former schedule was:

First 2,000 Cu. Ft.	$2.45
Next 3,000 " "	2.25
Next 10,000 " "	2.10
Over 15,000 " "	2.00

Subject to 10c per M. for prompt payment.

Canadian Convention Program of Wide Interest

Toronto, Ontario, Canada.—The program of the 1926 Convention of the Canadian Gas Association, to be held July 8 and 9 in Montreal, Canada, will contain the following papers:

1. The Function of Salesmanship in the Development of an Industrial Fuel Department, by A. G. Davis, Industrial Fuel Division, Consumers' Gas Co., Toronto, Ont.
2. The Use of Water Gas and Coke Oven Gas for the Production of Possible Gasoline Substitutes, by Dr. R. T. Elworthy, Division of Chemistry, Mines Branch, Ottawa, Ont.
3. Experiences in Gas House Heating in Vancouver and Victoria, B. C., by John Keillor, Engineer Gas Manufacture, British Columbia Electric Railway Co., Ltd., Vancouver, B. C.
4. A Description of the Water Gas Plant at Marysville, Mich., by Daniel W. Hayes, District Agent, Detroit Edison Co., Port Huron, Mich.
5. Indirect Profits, by Frank W. Steere, president, Steere Engineering Company, Detroit, Mich.
6. New Methods of Gas Purification, by F. W. Sperr, Jr., Director of Research, Koppers Company Laboratories, Mellon Institute, Pittsburgh, Pa.
7. History of the Water Gas Machine, by Thos. W. Stone, Chief Engineer, Western Gas Construction Co., Fort Wayne, Ind.
8. A Sales Problem and its Answer, by R. J. Canniff, American Gas Association, New York, N. Y.
9. Recent Extensions to Station "A" Plant Consumers' Gas Company, Toronto, by C. G. Herring, Chief Draughtsman, Works Department, Consumers' Gas Co., Toronto, Ont.
10. Value of New Business Departments, by W. A. Jones, Chairman Executive Committee, Cities Service Gas Company, New York, N. Y.

There will be a Question Box discussion in addition to the above.

Gas Company Asks Franchise

Conway, Ark.—Application for a gas franchise has been made to the city council by the Morgan Utilities, Inc., of Little Rock, said to be backed by S. R. Morgan. The proposal was presented by Attorney G. W. Garner.

The same company is said to be seeking other franchises in towns which it proposes to supply with natural gas from the Clarksville field, where a gas well of considerable size blew in some months ago. Franchises are sought, it is said, in towns between Clarksville and Conway and at Russellville and Dardanelle.

The proposed franchise provides a minimum rate of $1.50 per month for gas and a sliding scale, beginning at 75 cents per thousand feet for the first 5,000 feet.

Other concerns also have made applications for gas franchises in Conway.

* * *

Charles C. Phelps to Represent Companies in New York

New York, N. Y.—Charles C. Phelps, 473 Getty Ave., Paterson, New Jersey, announces that he and Charles J. Schmid, his associate, have been appointed Metropolitan New York and Northern New Jersey representatives for the Uehling Instrument Co., of Paterson, the Williams Gauge Co. of Pittsburgh, The Combustion Control Division of the A. W. Cash Co., of Decatur, Ill., and the National Boiler Protector Co., of Dayton, Ohio. Mr. Phelps still retains his former connection with Uehling as Treasurer of that organization. Mr. Schmid was formerly the Boston representative of the Uehling Instrument Co.

* * *

W. H. Blauvelt to Sail for Europe

William Hutton Blauvelt, Consulting Engineer of 120 Broadway, New York City, sails July 3, on the steamship "Caledonia" for Europe, where he plans to spend the months of July and August. During this period he will investigate the work now being so intensively carried on in England, France and Germany on problems relating to the carbonization and processing of coal. Mr. Blauvelt will give especial attention to the new low temperature and hydrogenation processes.

Gas Rates In Colorado Springs to Change

Colorado Springs, Colo.—Earl Mosley, manager of the municipal light and power department, this city, submitted to the city council a change in rates for gas, the council approving. In making the change Manager Mosley says that the consumption of gas is far below what it should be and it is hoped that the new rates will be the means of the citizens taking advantage of gas for various purposes.

It will be observed that the small user, under 5,000 cubic feet, does not gain by the change, but if the consumption under the new rates justifies a further reduction then the little fellow will come into his own. A comparison of the new and old rates follows:

	New Net Rate
First 5,000 cu. ft.	$1.60
Next 15,000 " "	1.40
Next 30,000 " "	1.20
All above 50,000 cu. ft.	1.00

	Old Net Rate
First 10,000 cu. ft.	$1.60
Next 20,000 " "	1.50
Over 30,000 " "	1.35

* * *

G. C. Shadwell Moves Office

Gilbert C. Shadwell, now located at 72 Cortlandt Street, announces the removal of his office on July 1st to Room 506, 39 Cortlandt Street, New York City. Mr. Shadwell is the direct factory representative of the S. B. Sexton Stove & Mfg. Corp., Eclipse Fuel Engineering Company, Guardian General Appliance Company and the Iron Hydroxide Company.

* * *

Northern N. Y. Utilities to Change Capitalization

Albany, N. Y.—Northern New York Utilities, Inc., Watertown, has filed a certificate in the office of the Secretary of State, changing the par value of its 400,000 shares common stock, $25 par value, to 400,000 shares non par value, with 100,000 shares preferred stock $100 par value remaining same as heretofore. This corporation supplies gas and electricity in Watertown and electricity in a half dozen counties in the northern part of the state.

Milwaukee Suburban Gas Company Incorporated

Milwaukee, Wis.—The Milwaukee Suburban Gas Company, a subsidiary of the Milwaukee Gas Light Co., has been incorporated to supply gas to the district north of Wauwatosa and west of Shorewood and Whitefish Bay. Officers are: President, Sheldon J. Glass; vice-president, R. B. Brown, and secretary-treasurer, Ewald Haase.

Clifford E. Paige is Bank Trustee

Brooklyn, N. Y.—Clifford E. Paige, vice-president of the Brooklyn Union Gas Company, was recently elected member of the board of trustees of The South Brooklyn Savings Institution.

Mr. Paige fills the vacancy caused by the death of Charles A. Boody. Mr. Paige came to the Brooklyn Union Gas Company about two years ago from Charles H. Tenney & Co., of Boston, where he was formerly connected with a number of gas companies.

He is a member of the board of the Brooklyn Hospital, the Polytechnic Institute, is interested in the Boy Scout movement and is actively known in the Brooklyn Society for the Prevention of Cruelty to Children. Mr. Paige is a member of the Crescent Club, the Hamilton Club, is married and has three children.

P. G. & E. Co. Building Waterless Holder

New Holder Made Necessary By Industrial Expansion

San Francisco, Calif.—A 10,000,000 cubic-foot gas-holder of the waterless type is now under construction in Oakland for the Pacific Gas & Electric Company. The construction of this gas-holder has been made necessary by the tremendous industrial expansion and spread of home building activity in that section. The new holder is the waterless type, the second of its kind to be erected in this part of the world.

The industrial and residential expansion referred to has been the subject of considerable study on the part of those charged with the responsibility of providing an adequate gas supply for the company's consumers in the East Bay territory. A thorough analysis of the company's central gas generating plant in Oakland, known as Gas Station "B," and the extensive transmission and distribution system which includes 1,400 miles of gas mains, was made before the conclusion was reached that additional holder capacity was required also, that a large storage holder located in East Oakland would prove the most practical solution of the distribution problem. Accordingly, a suitable holder site was purchased at 50th Avenue and Clement Street, a location approximately four miles from the company's central gas generating plant and only a short distance from the 16-inch high pressure line supplying East Oakland, San Leandro and Hayward. The location is also less than a mile distant from the end of the semi-high pressure trunk line supplying the large area east of the Lake Merritt section.

The Bartlett Hayward Company of Baltimore was awarded the contract and the waterless type holder was decided upon. The holder will be polygonal in shape, having twenty-four sides and constructed of flanged steel plates 32½ inches wide and 27 feet 10⅜ inches in length.

The motor driven compressors, five in number, now located at the compressor station at First and Jefferson streets, Oakland, will be moved to the new holder site. Three of these compressors are of the reciprocating piston type, combined capacity, 750,000 cubic feet per hour at 50 pounds pressure. The other two are the centrifugal type, with a capacity of 500,000 cubic feet per hour each at 10 pounds pressure. Gas will be taken into the holder from the 16-inch high pressure line being fed from Gas Station "B" during the hours from 9:00 P. M. to 6 A. M. In the day time gas will be sent out into the high pressure and semi-high pressure systems from this station, leaving the present compressors and transmission line from Gas Station "B" to supply Oakland, Piedmont, Berkeley and Richmond. In this manner adequate storage capacity will be provided and the present trunk lines from Gas Station "B" will be relieved of excessive pressures during peak hour demands and provide capacity for additional growth in all sections of Oakland with the exception of the territory east of Lake Merritt, which will be supplied by the new holder station.

* * *

Clare N. Stannard on Charity Board

Denver, Colo.—Clare N. Stannard, vice-president and general manager of the Public Service Company, Denver, has accepted the invitation to serve as a member of the advisory board of the Sunshine Mission, an institution in the mile-high city to help those who are in need of spiritual and body help.

* * *

A Correction

In reviewing the latest catalog of the Lattimer-Stevens Company, Columbus, Ohio, in the June 5th issue of the American Gas Journal, their address was given as Cleveland, Ohio, instead of Columbus, Ohio. This concern is the well-known manufacturers of meter connections, meter shelves, iron body stop cocks, stop cock seals, meter seals, swivels and caps. This new catalog of the Lattimer-Stevens Company is designated as catalog No. 16. It is printed in two colors, and there are a number of illustrations showing the most approved methods of meter installations. It illustrates and describes Lattimer-Stevens meter connections, patented meter shelves, iron body stop cocks and sealing devices. This catalog also contains several pages of tables showing the outside dimensions of gas meters, approximate weights and dimensions of standard screwed fittings and various other tables of general engineering interest.

Flexible Tubing Must Have American Gas Association O. K.

New York City Passes Regulation to Prevent Sale of Bad Tubing

New York, N. Y.—Adoption by the Board of Health of New York City of a new article to the Sanitary Code making it a misdemeanor punishable by a fine of $500 or imprisonment for one year, or both, to sell flexible gas tubing that does not conform to certain tests and specifications, which are practically those adopted by the American Gas Association, has been announced.

According to Louis I. Harris, Commissioner of Health, numerous deaths have occurred as a result of the accidental asphyxiation of persons in New York City caused by the use of defective flexible gas tubing used in connection with gas stoves, heating apparatus and other gas appliances. The drastic action taken by the Board of Health was strongly recommended by gas companies serving the Greater New York territory. Action of a similar nature has been taken already by the cities of Newark and Baltimore. The new section of the Sanitary Code becomes effective August 1st. It reads as follows:

Section 344. Flexible gas tubing; term defined; registration required; sale and use regulated.—No person shall have, sell, offer for sale, give away, deal in or supply, any flexible gas tubing unless such flexible gas tubing shall have been registered with the Board of Health and a certificate of registration has been issued by the Board of Health certifying that such flexible gas tubing has been examined and tested and found to comply with the regulations of the said board. The term "flexible gas tubing" shall be taken to mean and include any non-rigid hoseing or piping and the end pieces thereof securely attached thereto and used or intended to be used to convey manufactured gas for domestic, manufacturing, or other purposes. It shall be the duty of every manufacturer of flexible gas tubing before offering gas for sale in the City of New York to procure a certificate of registration of such flexible gas tubing from the Board of Health in accordance with the regulations of said board.

"Any flexible gas tubing found to be defective or imperfect or leaky, or unfit for use by reason of defects or imperfections therein, or if such flexible gas tubing shall not have been properly registered with the Board of Health, or if such flexible gas tubing be fraudulently marked or registered, or if it shall not conform in all respects with the regulations of the Board of Health governing such flexible gas tubing, may be seized by any inspector or other duly authorized representative of the Board of Health, condemned, destroyed or held for such action as the Board of Health may direct. (This section shall take effect August 1, 1926.) (As adopted by the Board of Health June 11, 1926.)"

"The tubing specifications recommended by the Board of Health are largely those adopted by the American Gas Association for national use as a result of tests and research made at the Appliance Testing Laboratory in Cleveland, Ohio," said Alexander Forward, secretary-manager of the national organization. The action taken by the New York health authorities is a notable recognition of our safety work and it is almost sure to be followed by other cities."

Commissioner of Health Harris has been actively interested in industrial hygiene and health legislation for years. He has been connected with the Board of Health for nineteen years and previous to that time was a director of the Bureau of Preventable Diseases. He is forty-six years old.

* * *

New Jersey Gas Merger Sanctioned

Trenton, N. J.—The Public Utility Commission has sanctioned a merger of the Pleasantville Gas Company with the Atlantic City Gas Company, the exchange of stock of the consolidation for shares now outstanding and the issuance of $582,000 of promissory notes.

The board also authorized the People's Gas Company of Glassboro to issue $430,700 of 6 per cent. cumulative preferred stock in exchange for outstanding 7 per cent. stock aggregating $341,000, and 5 per cent. stock amounting to $139,650.

* * *

H. B. Rust Extends Gas Interests

New Haven, Conn.—In local financial circles today much interest was manifested in the news from authentic sources that H. B. Rust, President of the Koppers Company and also some of the subsidiary companies has become a stockholder in the New Haven Gas Light Company. Just how large the holdings are that President Rust has acquired in New Haven Gas is not made known.

From other sources, however, it was learned that President Rust has a large block of stock in the Gas Light Company and this caused people to speculate if the Koppers company has not established a good foothold toward future control of the Gas Light company. President Rust has not been the owner of the stock in the company here until within the past year or so, it was said, and it is believed that he became a part owner of the property here during the period that the Gas Light company stock showed so much activity and when old holders of the stock sold their holdings on the scale up.

It was said that the control of the Gas Light Company has not passed into new hands yet, that the committee of the board of directors is still receptive and giving interviews to those who seem to show an interest in prospective purchasers, but there have been no developments yet that would indicate any of the prospective purchasers are ready to make definite proposals. Therefore the directors of the Gas Company view the whole situation as one of statu quo with nothing to report to the stockholders.

Homes Installed Welsbach Water Heaters

In ONE Month——In ONE City

This remarkable record of one gas company proves conclusively that there is plenty of water heater business to be had. You can get your share of that business with Welsbach water heaters.

The Housewife is ready to buy

FIRST—When she can get a reliable gas water heater at a moderate price.

(Welsbach Heaters Retail as Low as $90)

SECOND—When she is convinced that operating cost is low enough to be afforded.

(Welsbach Water Heater Tests Show About 2 Ft. of Artificial Gas Needed to Heat Each Gallon of Water)

THIRD— When the numerous advantages of such a system are brought to her attention by illustration and argument.

(Welsbach Advertising Includes Direct Mail, Display Cards, Window Display and Newspaper Advertisements, All of Which Carry Home the Message of Economy and Efficiency in Water Heating)

WELSBACH COMPANY
Member American Gas Association

GLOUCESTER, N. J. Branches in Principal Cities

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

New Portable Power Drive Pipe Cutter

The Borden Company, Warren, O., recently issued a folder describing their new No. 44 Beaver Power Drive pipe cutting and threading machine. The machine is portable, equipped with a motor, and can be used for making up fittings as well as cutting and

threading pipe. It is so constructed that all kinds of hand tools can be used on this power machine. The range is from ¼ to 2-inch pipe, inclusive, and if the universal shaft is used the range is from ¼ to 6-inch pipe. Their folder shows illustrations of the various uses the machine can be used for around the plant. Copy will be sent on request.

Contracts Awarded

The city of Sanford, Florida, is experiencing the general expansion that is taking place in that state, with the result that the gas plant is sorely taxed to supply the needed gas for the community. The city authorities have, therefore, placed contract with the U. G. I. Contracting Co., Philadelphia, to make various extensions and additions to the city gas plant, and these will include the following: A 6 ft. U. G. I. cone top water gas apparatus, to be installed and equipped with a Chrisman Cycle, which will enable the apparatus to be operated with increased efficiencies, especially when using soft coal.

The Long Island Lighting Co. is making improvements to its Bay Shore, L. I., plant, and included in these improvements is the installation of U. G. I. vertical waste heat boiler. This boiler will be installed on the carburetted water gas apparatus and by its use large steam economies will be effected in the plant, as well as additional condensing capacity obtained.

The boiler will have a rating of approximately 260 hp.

Non-Return Gas Check Valves

There are many cases where a gas plant serves a large area and the pressure drop in the mains becomes prohibitive. For instance, a central plant may serve a number of small outlying suburban towns or districts and serve such a district through local equalizing gas holders.

To avoid the great expense incident to increasing the size of the mains, it is frequent practice to install a boosting station between the supply mains and the auxiliary gas holders. In the event that the booster is shut down, or stops for any reason, a check valve is required to prevent back flow of the gas from the auxiliary holder to the supply main.

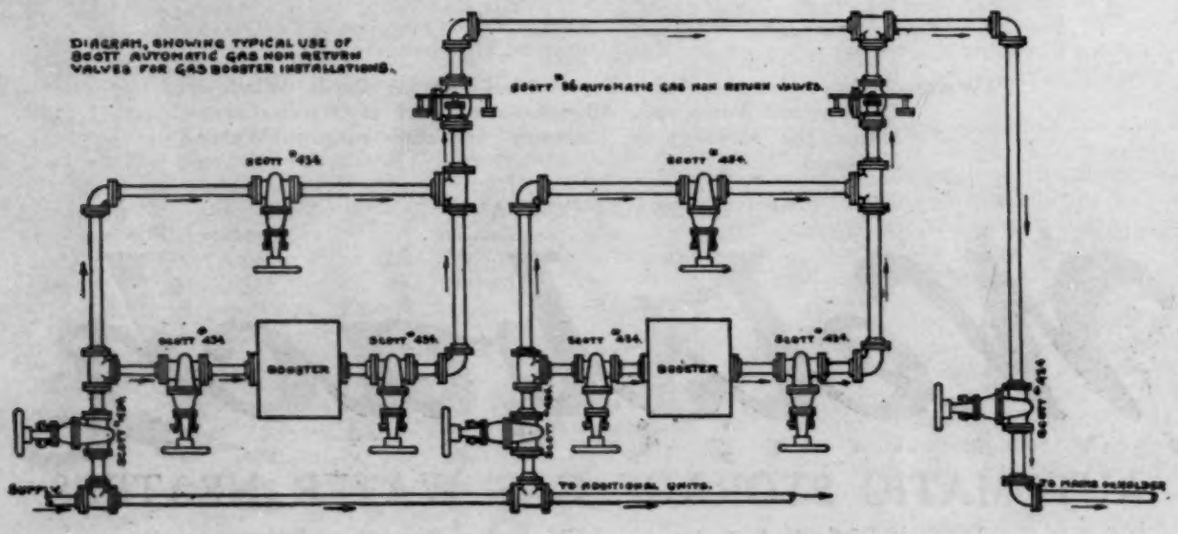
This service calls for something more than an ordinary check valve. The valve must be gas-tight; positive, free from any tendency to chatter in operation and susceptible of balancing so that it will function properly under any desired differential pressure.

Scott Back Pressure Valves, No. 95 and No. 96 in the horizontal types, and No. 97 and No. 98, in the vertical types, are well suited for this use, where the supply connection does not exceed 24 inches. When furnished as gas check valves they are usually supplied with a lever extending on both sides of the fulcrum, so that balancing weights may be used to make exact adjustment for the particular conditions of service. These valves are sensitive in action, quiet in operation and the water seal insures tightness.

The accompanying sketch shows a typical installation of this type.

A similar condition obtains when an industrial plant wishes to use gas at a higher pressure than that available from the city mains. There is such an installation at one of the largest automotive plants in Detroit, where three booster units and three 8-inch gas check valves are in service.

This valve is manufactured by the Scott Valve Mfg. Co., Detroit, Mich.



Of All the Homes That Use Gas Why Do So Few Have Gas Water Heaters?

The important consumer reasons for this condition are, Original Cost, Cost of Operation and Lack of Understanding of the advantages of the modern automatic gas heated storage method as now made available by the Welsbach Company.

The Welsbach Company has the answer to ALL these reasons in their automatic storage gas water heaters with a selling price beginning at $90. THAT overcomes the "Original Cost" objection as compared with the cost of former appliances and as evidenced by the fact that one gas company sold 416 Welsbach Water Heaters in One month.

As to "Cost of Operation," thorough tests showed a gas consumption of less than TWO FEET (artificial gas) for every gallon delivered piping hot at the faucet. Think of that! Over 5 gallons heated to 140 degrees, for TEN CENTS worth of dollar gas!

To help you inform your customers of these facts and their value to them, we have a tested and successful direct-mail campaign that clearly and emphatically PROVES our statements.

Write for Information

WELSBACH COMPANY
Member American Gas Association
GLOUCESTER, N. J.

Branches in Principal Cities

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

An Improved Tower Packing

Triple Spiral Tile is an improved Tower Packing which fulfills all the requirements for a satisfactory, acid-proof, long-lasting and economical packing in Absorption Towers, Recovery Apparatus, Scrubbers and Condensers.

Triple Spiral Tower Packing is a cylindrical vitrified shell, having three spirals on the inside, integral with the shell. The three spirals are joined with one another along the central axis of the shell. This feature practically eliminates all possibility of gas channels forming in the packing. They are 3¼x3 in., weigh approximately 110 pounds per hundred, pack 55 to the cu. ft. and provide 36 square feet of surface per cu. ft. of packed space and have 60 per cent free space.

It is claimed by Chemical Appliances, Inc., the sole selling agents, 52 East 42nd street, New York, that this design furnishes excellent mixing and baffling action without creating excessive gas friction. Ordinary blowers or fans can be used satisfactorily for passing the gas through towers filled with this packing. The tile have a high crushing strength and will carry their own weight for 100 feet or more.

The company above referred to will gladly send a sample and answer any questions relative to Triple Spiral Tower Packing.

* * *

New Centrifugal Pipe

The new plant being erected by the American Cast Iron Pipe Company for the manufacture of centrifugal cast iron pipe in refractory molds will be ready for operation on a commercial basis by the middle of May. The plant will manufacture pipe in 16 ft. lengths and in diameters of 4 in., 6 in., 10 in. and 12 in. The plant will be capable of operation 24 hours per day, with a potential capacity equivalent to two 6 in. 16 ft. pipe per minute.

"Acipco Mono-cast Pipe" is the trade name adopted by the American Cast Iron Pipe Company for this product. "Mono-cast" means a pipe made as a unit—an integral casting every part of which is formed at the same moment by centrifugal force.

This new centrifugal pipe will be bell and spigot with bead on the spigot end and will be made under specifications providing for seven standard weights, i.e., Classes A, B, C and D weights of the American Water Works Association, standard weights of the American Gas Association, and two lighter weights, which will be, respectively, approximately 17½ per cent and 25 per cent lighter than standard Class "B" American Water Works weights.

The development of this process has been under way at the plant of the American Cast Iron Pipe Company for the past three years.

Specifications for Mono-cast pipe are now being prepared and will be ready for circulation about March 1.

* * *

Glenville Gas Co. Sold

Glenville, W. Va.—The Glenville Natural Gas Company, owned by the Eastern Oil Company, with headquarters in Buffalo, N. Y., has been sold to the Pittsburgh and West Virginia Gas Company. The deal, which has been pending for a few months, was consummated last week. The Pittsburgh and West Virginia Gas Company is a subsidiary of the Philadelphia Company and is the owner of much gas production in Gilmer County. The new company owns and operates a compressing station at Hays City, a mile east of Glenville, and has been supplying the city with a large portion of the gas consumed for some years. The Glenville Natural Gas Company originally got its supply of gas from its own wells near Tanner, but that supply has not been adequate for some time. The new company has an eight-inch line within a mile of town and is in a position to supply gas in unlimited quantity. Superintendent W. W. Warder, of the local plant, while confirming the deal, was not authorized to make public any of the details.

Adrian Gas Co. to Reorganize

Adrian, Mich.—Steps toward the reorganization of Adrian's gas utility company have been taken and a petition has been filed with the Michigan Public Utilities Commission seeking permission to file articles of incorporation for the Citizens Gas Fuel Company of Adrian.

The petition further asked authorization to issue $386,000 worth of first mortgage bonds to be given to the old bond holders of the Lenawee County Gas & Electric Company. The new company seeks capitalization at $500,000, with the right to issue as much of a block of $300,000 worth of common stock as the commission may deem necessary.

The proposed articles of incorporation also call for the issuance of $200,000 worth of preferred stock, but the company is not asking permission to issue any of that at this time. The commission has fixed February 2 as the date for hearing.

The incorporators of the new company are D. E. Byerley, Roy M. McPhail and Mr. Baldwin. When the legal preliminaries have been completed before the commission, the company will issue its stock, the stockholders will elect directors and the directors, in turn, will elect officers, completing the organization in the usual way.

* * *

N. Y. State Gas & Electric Co. Files Rate Schedule

Albany, N. Y.—The New York State Gas & Electric Company has filed a new schedule for gas in the city of Cortland, the village of Homer and the towns of Cortlandville and Homer. The purpose of the new schedule is to put into effect a new block rate which will permit the use of gas industrially within the territory served. The former rate was a straight line rate of $2.40 per thousand cubic feet. The new rate is in block form as follows: First 10,000 cu. ft. per month, $2.45 per M.; next 10,000 cu. ft. per month, $1.90 per M.; next 20,000 cu. ft. per month, $1 per M.; all over 40,000 cu. ft. per month, 80 cents per M.

Re:
THE STANDARD GAS EQUIPMENT CORPORATION

A few details of interest to everyone in the Gas Industry

IT was formed in 1924 by the merging of the Wm. M. Crane Company of New York, The Baltimore Gas Appliance & Manufacturing Company of Baltimore, and the General Gas Appliance Company of New York.

It started functioning at once with three Divisions—namely Vulcan, Oriole and Triplex—and with two large plants, one at Jersey City and the other at Baltimore.

In April, 1925, a Permanent Educational Exhibit of Gas Appliances for all three Divisions was opened on the Boardwalk at Atlantic City, N. Y. Monthly educational lectures are given. These lectures are designed to sell more gas by encouraging wider uses for the top burners and a more general use of both the oven and boiler.

At the A. G. A. Convention in October, 1925, a new improved water heater was introduced to the gas industry. This is the first product to be placed on the market since the consolidation of a Laboratory that has, under the direction of H. W. O'Dowd, already produced improved appliances such as the Smoothtop Range, the Super Vulcan Burner, the Vulcan Economy Hot-Top Hotel Range, etc.

In November, 1925, after a notably successful year, George H. Warner was elected Chairman of the Board and R. Curzon Hoffman, Jr., made President.

In December, 1925, a New England Sales Office for all three Divisions was established at Boston with F. D. Cadwallader in charge.

On January 1st, 1926, the purchase of the Rathbone Sard & Company plant at Aurora, Ill. (manufacturers of the well-known line of Acorn Ranges) was announced. It is now known as the Acorn Division of the Standard Gas Equipment Corporation. Smoothtop Ranges and Vulcan Hotel Equipment will be manufactured at the Aurora plant, as well as Acorn Ranges.

This announcement was followed by the opening of a Western Sales Office for the Vulcan Division at Chicago with Robert J. Caniff, formerly Sales Promotion Manager of the Central Hudson Gas & Electric Company, in charge.

A few days later W. B. Johnson, formerly Commercial manager of the Consumers Gas Company of Toronto, was appointed Supervisor of Field Sales for the Vulcan Division.

And on February 8th, Frank H. Knapp, formerly President of the Pittsburg Water Heater Company, joined this organization as General Vice-President.

Such is a tabloid chronicle of the history of the Standard Gas Equipment Corporation. It gives you only an inkling of the scale on which the activities of this organization are operating.

Extensive sales and distribution plans are being perfected. New salesmen have been employed. The Home Service Department has been greatly enlarged. Plant production facilities have been increased. Our Laboratory is at work developing new improvements and testing new appliances.

Behind all this activity is a big vision—the vision of a gas industry in the near future

that in size and service will eclipse even the fondest hopes of most gas men; the vision of a gas industry so organized and developed that it will stand at the top in quality standards, in progressive merchandising methods, in improved appliances, in efficient distribution service; the vision of a gas industry that will become the nation's most essential domestic and industrial utility.

It is because we believe in this vision that we are building up a sales and production organization which will be sufficiently large and competent to materially help you in bringing about its fulfillment.

Four specific advantages of an organization as large as the Standard Gas Equipment Corporation are as follows:

1. A complete line of standardized quality gas appliances. Eliminating the necessity of dealing with half a dozen concerns. Simplifying work. Creating more uniform standards.

2. A new merchandising cooperation—more complete, more flexible, more helpful—one that takes the initiative in educating the consumer.

3. A laboratory for research and testing that is the best equipped of its kind in the country. Conducted on such a scale that the cost would be prohibitive for any but a large company.

4. A new national distribution service—strategic location of plants for prompt, economical delivery.

These advantages will be explained more fully in the next insertion of these series—which is scheduled to appear in the April 3rd issue.

VULCAN
Smoothtop
ORIOLE
TRIPLEX
Acorn
STANDARD WHERE GAS IS USED

THE STANDARD GAS EQUIPMENT CORPORATION

Vulcan—Oriole—Triplex—Acorn Divisions

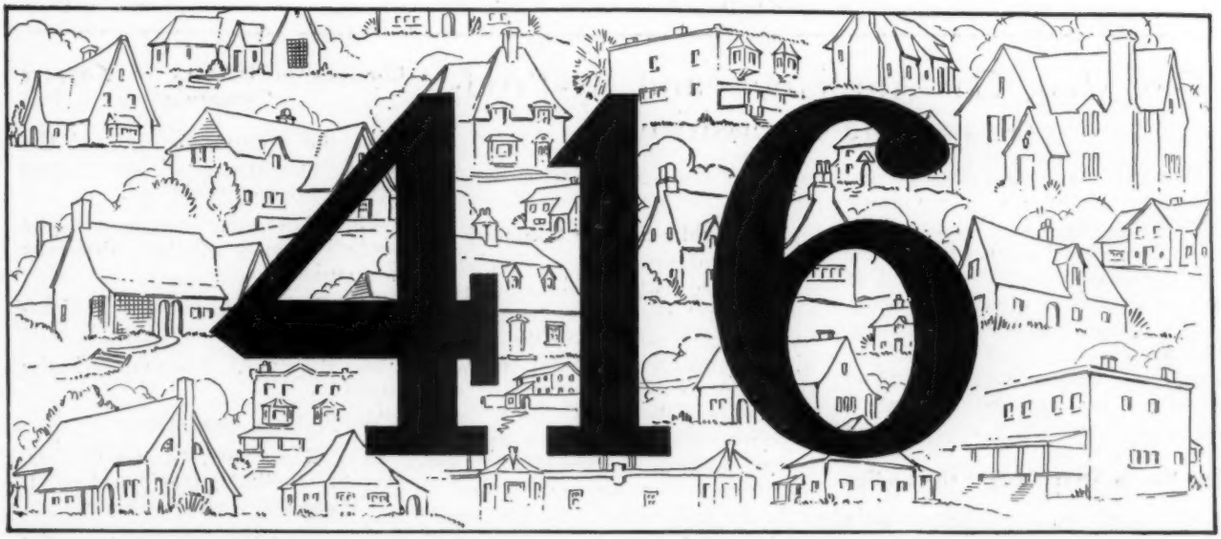
18 East 41st Street New York, N. Y.

Pacific Coast Distributors:

NORTHWEST GAS & ELECTRIC EQUIPMENT COMPANY

Portland, Oregon

Branch offices: Los Angeles and San Francisco, Cal.



Homes Installed Welsbach Water Heaters

In ONE Month——In ONE City

This remarkable record of one gas company proves conclusively that there is plenty of water heater business to be had. You can get your share of that business with Welsbach water heaters.

The Housewife is ready to buy

FIRST—When she can get a reliable gas water heater at a moderate price.

(Welsbach Heaters Retail as Low as $90)

SECOND—When she is convinced that operating cost is low enough to be afforded.

(Welsbach Water Heater Tests Show About 2 Ft. of Artificial Gas Needed to Heat Each Gallon of Water)

THIRD—When the numerous advantages of such a system are brought to her attention by illustration and argument.

(Welsbach Advertising Includes Direct Mail, Display Cards, Window Display and Newspaper Advertisements, All of Which Carry Home the Message of Economy and Efficiency in Water Heating)

Write for information on sales plan, discounts and deliveries.

WELSBACH COMPANY
Member American Gas Association

GLOUCESTER, N. J. Branches in Principal Cities

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

Gas Men, Gas Appliances and By-Products at the Exposition

Denver, Colo.—The sixth annual Colorado Industrial Exposition and Prosperity Carnival was held in the municipal auditorium, Denver, February 22-27. Upward of 200 exhibitors made it a "show" worth seeing and investigating. The principal motives were to display Colorado-made goods and to show the buying public what is best for them.

The Booth That Caught the Ladies

Walking down the middle aisle a large card sign topping a white enamel gas range read:

"You Can Cook With the Gas Turned Off"

As I wedged my way in, I said: "At last we have it, perpetual motion or some darn fool notion," and that got a grin out of the two young men who were demonstrating the Chambers Fireless Gas Range, made by the Chambers Manufacturing Company of Shelbyville, Indiana, and then he showed me how it is done. A conservation of heat waves, caught and put to work under a hood, or, as they phrase it, "The Thermodome."

A handsome illustrated booklet was given to all so that they might read and see just what was shown and explained.

I find that they are members of the A. G. A.; that their gas range is endorsed by the Tribune Institute, Priscilla Proving Plant and Good Housekeeping. To all who visited the booth a card was handed and a number drawn when the show was over, entitling the holder to one of the ranges free. I left word to send me a right-handed one, my number being 3841.

The Public Service Company

The Public Service Company of Colorado had the space of three booths, and three men were busy explaining just what the signs meant, and the merits of the water heater, fireplace heater and the gas range. We read: "We have experienced men to help you with house heating problems." "Gas the perfect heat for your home."

At the end of the aisle we found the Crown Tar Works and counted fifty by-products from coal tar. This is a subsidiary of the Public Service Company.

Things Worth Knowing

That is what the public gets by attending these expositions, and all who sign cards which entitle them to a free chance at some of the gifts, give the dealer bona fide addresses of folks who are anxious to buy that which they have seen and believe to be satisfactory. Then we saw the booth of the General Outdoor Advertising Company, a miniature billboard reading: "Billboard Outdoor Advertising Sells Your Goods POSITIVELY." Now you must tie a string to that assertion because a billboard placed where it is not otherwise objectionable will do all that is claimed for it; but do not overlook that the automobile folks—and they are in the majority—are bitterly opposed to billboards marring the beauty spots along the road. That these objections are being heeded, we recall that some who were users of billboards have obliterated them.

John B. Eustace Honored on Birthday

Chicago, Ill.—The Peoples Gas Light and Coke Company and its entire personnel recently gave a party for John B. Eustace, one of the vice-presidents, in celebration of his 70th birthday anniversary. The affair was held at Medinah Temple.

Mr. Eustace is 70 years old and has been 56 years 2 months and 23 days in the gas business, 40 years and 4 months of which have been in the service of the Peoples Gas Light and Coke Company and its predecessors.

All of the company's 4,000 employees except those required to maintain operation of the company's plant, together with their wives and sweethearts, were present.

Samuel Insull, president, made the testimonial address on behalf of the company and its personnel

Changes in Officers of Koppers Companies

At the annual meeting of the Koppers Company, all officers and directors were re-elected.

The following changes were made in some of the subsidiary companies:

The Koppers Construction Company:

H. B. Rust, chairman of the board.

W. F. Rust, president.

C. J. Ramsburg, Joseph Becker, Harold Doolittle, Halfdan Lee, J. I. Thompson, vice-presidents.

T. G. Janney, manager of the Chicago By-Product Coke Company, was elected vice-president and manager.

D. MacArthur, manager of the Seaboard By-Product Coke Company, was elected vice-president.

J. T. Tierney was appointed manager of the Seaboard By-Product Coke Company.

E. L. Smith, manager of the Minnesota By-Product Coke Company, was elected vice-president and manager.

F. H. Beebe, manager of the Western Gas Construction Company, was elected vice-president and manager.

J. P. Williams, manager of the Melcroft Coal Company, was elected vice-president and manager.

J. N. Forker, formerly purchasing agent of the Koppers Company, was elected vice-president and manager of the American Tar Products Company.

D. M. Craig was appointed assistant to president, the Koppers Company.

F. W. Sperr, Jr., was elected director of research, the Koppers Company.

W. L. Williams was appointed purchasing agent, the Koppers Company.

* * *

Turlock Gas Co. Sold

San Joaquin, Calif.—The plant and business of the Turlock Gas Company, at Turlock, Stanislaus County, has been sold to the Pacific Lighting Corporation.

A. G. A. Distribution Conference at Cleveland in May

Last year a Distribution Conference was held at Detroit, Michigan, under the auspices of the Distribution Committee of the A. G. A., which was attended by some 123 distribution engineers from all parts of the country. The meeting resulted in such hearty approval from the attending delegates and their companies that it was decided to continue the conferences, and Cleveland has been selected as the meeting place.

A splendid program of distribution subjects is being prepared and all distribution engineers and superintendents who are able to attend the Cleveland meeting may feel assured of a most profitable and instructive return for their trip. In addition to the usual meeting it is planned to inspect the A. G. A. Laboratory on Saturday morning, May 8.

All those planning to attend the conference are requested to get in touch promptly with Mr. H. W. Hartman at Association Headquarters.

Jacob B. Jones Talks to Boy Scouts

Bridgeton, N. J.—The Boy Scouts of Bridgeton troops, to the number of between two and three hundred, were the guests at a rally recently in Trinity M. E. Church of Jacob B. Jones, one of Bridgeton's most successful business men, and one who is especially popular with boys.

Mr. Jones spoke to the boys of his boyhood in Bridgeton. It was no set speech, nor did he at any time attempt any flight of eloquence, but he talked to them as man to man, and he had the boys with him every minute of the time.

So interested were they that when Mr. Jones would ask a question as to the games and pastimes of the boys there was not the slightest hesitation or waiting for an answer, for the boys responded at once, and even the ones who seldom "speak out in meeting" were so interested that they forgot to be timid, and gave their reply as heartily as the most bold.

Mr. Jones is a Bridgeton boy who has achieved unusual success in his home town and his ability has been recognized by both state and national conventions. So that the boys knew that he knew what he was talking about when he said "There is opportunity for every boy in his home town. He does not have to get out and go to a big city in order to be successful."

His advice to the boys was "Get a job. Stick to it. And do the very best you can in it."

Mary E. Dillon Elected President Brooklyn Borough Gas Company

Brooklyn, N. Y.—Miss Mary E. Dillon, who took a position twenty-three years ago as a clerk with the Brooklyn Borough Gas Company in its Coney Island office and was promoted to manager of that branch and then to general manager and vice-president of the company, has been elected as president after being vice-president for two years.

Miss Dillon—in private life she is Mrs. Henry Farber—was chosen by the company's Board of Directors.

Mary E. Dillon

The Brooklyn Borough Gas Company is a $5,000,000 corporation, serving nearly 40,000 consumers in the Thirty-first Ward of Brooklyn, which includes the Coney Island and Sheepshead Bay districts.

Miss Dillon is said to be the only woman president of a gas company in the country, and much of the Brooklyn Borough Company's success is attributed to her. She had advocated business careers for women, but has insisted that customers "should be handled as a woman handles them" to "humanize business."

"Sentiment is necessary in business," she has said. "A woman realizes this where a man may not."

When asked what she is most interested in, she said: "I hope, before I leave the gas industry, to see gas rates on such a scale that every small home owner in the community will be in a position to use gas for house heating."

One of Miss Dillon's first successes with the company was in 1919, when she persuaded the employes of the company not to go on strike. Now she is chief of 350 employes who are still willing to follow her lead.

Two other women were elected to offices in the company. They were Miss Helen S. Steers, treasurer and assistant secretary, and Miss Mary Armstrong, secretary and assistant treasurer. The men elected to places were: Richard Schaddelee, president of the United Light and Power Company, and William Chamberlain, vice-president, and L. H. Heinke, assistant secretary and assistant treasurer.

Lakewood Asks Gas Service

Lakewood, N. Y.—With the announcement that the Pennsylvania Gas Company would extend its service in Jamestown, Falconer and in the town of Elilcott, the village board voted to petition the company to extend its mains from Ellicott township to Lakewood.

F. L. Ball Gains Promotion

F. L. Ball, manager of the Fitchburg Gas & Electric Light Company, has been elected vice-president of that company and also vice-president of the Montpelier & Barre Light & Power Company. These are two of the companies under the management of Charles H. Tenney & Company.

This promotion marks Mr. Ball's twenty-fifth year with Tenney Service. Beginning as office boy

F. L. Ball, Vice-pres. Montpelier and Barre Light and Power Co.; Vice-pres. Fitchburg Gas and Electric Light Company

in 1901, he has had experience in almost every phase of central station operation and management—accounting, purchasing, production, sales. He has been lighting solicitor, appliance salesman, sales manager, assistant manager, manager. At the age of 26 he was appointed manager of the Haverhill Electric Company.

From May 1, 1917, to March 1, 1919, Mr. Ball served as Captain in the United States Army, twelve months of which were spent in France. On his discharge from the service, he became manager of the Fitchburg Gas & Electric Light Company. Under his management this property has been developed into one of the finest and most efficient plants in that section of the country.

A notable feature of Mr. Ball's management at Fitchburg was the promotion of safety work, with special attention to the prone pressure method of resuscitation. Indeed, the police and the fire departments, not only of Fitchburg but of nearby cities and towns, instinctively call upon the Fitchburg Gas & Electric Light Company for aid in cases of drowning, shock, or similar accident. Mr. Ball has been in charge of safety work throughout the Tenney system for several years; and the splendid record of the Tenney companies in safety work is largely the result of his efforts.

* * *

Brooklyn Union Gas Club Listens to Talk on Distribution of Gas

Brooklyn, N. Y.—The Brooklyn Union Gas Club, composed of employees of The Brooklyn Union Gas Company, gave the second of its series of illustrated talks on the gas industry at the Central Branch, Y. M. C. A. on March 16, 1926.

The subject of the evening was "The Distribution of Gas." The speakers were Mr. J. C. Devlin, Assistant Superintendent of the Holder Distribution Department and Mr. J. H. Waldron, Assistant Superintendent of the Street Main Department.

This series of talks is being given by the Educational Unit of the Club under the direction of Mr. E. C. Uhlig, vice-president.

The third talk of the series is scheduled for the evening of April 9.

* * *

C. G. M. Thomas, Gas Official, Dies

New York, N. Y.—Charles G. M. Thomas, fifty-nine, chairman of the Board of Directors of the New York and Queens Electric Light and Power Company, an officer in other gas and light corporations and a prominent civic worker in Queens County, has passed away.

Mr. Thomas is survived by his wife, Mrs. Saidee Antoinette Beach Thomas, whom he married in this city on June 17, 1890; a son, Charles Norton Thomas, and a daughter, Mrs. Marjorie Beach Banghart.

Mr. Thomas, who was closely identified with the development of the production of illuminating gas and the generation of electricity in New York, was born in this city on July 2, 1866, a son of John J. and Mary Jones Thomas. He attended the public schools and the College of the City of New York. He began his business career in 1883 in the insurance line, in which he continued five years.

Mr. Thomas also was vice-president and a director of the Bronx Gas and Electric Company, director of the C. H. S. Holding Corporation, Engineers' Land Corporation, First Mortgage Guarantee Company, Flushing Country Club Land Corporation, Flushing National Bank, National Coke and Coal Company and Northern Union Gas Company.

He had served as president of the Queens Chamber of Commerce and also was active in many other civic organizations. During the war he was chairman of the American Red Cross Second War Fund Committee of Queens and vice-chairman of the War Aid Association. He was vice-president of the Boy Scout Federation of New York City and chairman of the Board of Directors of the Boy Scouts' Sustaining Association. He was a former president of the Bayside Yacht Club and affiliated with other clubs.

* * *

Ruud Radio Hour Postponed

The Ruud Radio Hour, which was to have been a part of the program of KDKA at Pittsburgh, Pa., on March 22, 1926, has been postponed. Notice will be given hereafter of the definite day the program, "The Gas Lights of Broadway," will be given.

* * *

Pennsylvania Engineering Works Resumes Operations

New Castle, Pa.—After being shut down for repairs and improvements, the Pennsylvania Engineering Works of New Castle, Pa., has resumed operations. The foundry has a capacity of 1,000 tons per month of gray iron and semi-steel castings from 10 pounds to 50 tons.

A complete welding department has been established with facilities for all kinds of light and heavy work. Mr. R. H. Banks, located at 530 Union Trust Bldg., Pittsburgh, Pa., is in charge of sales.

Detroit Gas Plant Provides for Future Demands

Company Early Recognized Section's Importance and Was Prepared

Detroit, Mich.—When the program of construction recently inaugurated by the Detroit City Gas Company for the west side is completed, residents of that section of the city will see a new $3,500,000 gas plant with a daily capacity of from 12,000,000 to 15,000,000 cubic feet of gas, manufactured by the most modern processes known to the industry.

Visualizing the future growth of Detroit and especially the west side, officials of the Detroit City Gas Company, as far back as 1913, began to make preparations for handling increased business and bought 95 acres of land at South Dearborn and Allen roads, River Rouge.

Provides for Future

This tract has lain dormant for twelve years, until the vision became a reality and this new plant jumped out of the wilderness, designed to take care of Detroit's industrial and domestic gas supply for many years to come.

When completed, the new plant will have an office and laboratory building, service men's building with rest rooms, generator house, boiler house, machine shop and storage building, a building housing the exhauster and booster equipment for regulating gas pressure, meter building, pump house, purification plant, 3,000,000 cubic feet gas holder with relief holder and tar tanks, all occupying an acreage of approximately thirteen acres.

Purification Plant

In the new type holder to be used at the new west side station the principle of the floating piston is used and gas is pumped into the holder from the bottom.

Another feature of latest development in the gas industry is the addition to the plant of a liquid purification plant for the elimination of free sulphur and deodorization.

The power plant will consist of three 650-horsepower boilers, and Harrington stokers, permitting the use of a very low grade of coal as fuel.

This is the first unit and others will be added from time to time as the supply demands.

* * *

Engineers in Pittsburgh Addressed by H. H. Clark

The Engineering Society of Western Pennsylvania held a meeting at the Wm. Penn Hotel, Pittsburgh, Pa., on February 2nd. H. C. Adams read a paper prepared by H. Clark of the Peoples Gas Light and Coke Co. of Chicago, on "Fuel and Industry."

R. E. Polk, Equitable Gas Co., was elected vice chairman of the Mechanical Section of the Engineers for 1926.

* * *

Appointments in the Philadelphia Company

Pittsburgh, Pa.—Official announcement was recently made of the appointment of R. S. McCarthy as advertising manager of the Philadelphia Company and Affiliated Corporations.

Mr. McCarty was appointed acting advertising manager on July 1 last and his official appointment to this responsible position came to him as a pleasing New Year's gift.

Thomas E. Purcell was appointed general superintendent in charge of production and distribution of the Allegheny Steam Heating Company with headquarters in the Duquesne Building.

Judson Bonsall was appointed superintendent of compressing stations with headquarters in the Union Bank Building, Clarksburg, W. Va. He will assume in addition to his other duties the supervision of gasoline plant operations.

H. L. Abramovitz was appointed assistant superintendent of compressing stations with headquarters at Waynesburg, Pa.

* * *

Two Bankers Elected Directors of Philadelphia Co.

Pittsburgh, Pa.—Announcement was recently made of the election of W. L. Mellon and M. C. McEldowney to the directorate of the Philadelphia Company by A. W. Thompson, president. The new directors succeed George E. McCague and George S. Davidson. Mr. Thompson's announcement was made at a luncheon attended by directors, officers and junior officers of the company.

The new directors are two of Pittsburgh's most prominent citizens. Mr. Mellon is a director of the Mellon National Bank, president of the Gulf Oil Corporation and also on the directorate of various other corporations.. Mr. McEldowney is president and a director of the Union Trust Company, and has many other bank, industrial and public utility corporation affiliations.

Resolutions on the retirement of Mr. Davidson were read by J. D. Callery, chairman of the board of directors of the Philadelphia Company. Mr. Callery lauded Mr. Davidson's activities in the advancement of the enterprises of the company. Mr. Davidson recently was appointed chairman of the newly created City Transit Commission which, it was stated, will place duties on his shoulders that led him to believe he could no longer devote the necessary time to act as a member of the Philadelphia Company board. He will continue, however, as a director of the Duquesne Light Company. Mr. Davidson was not present at the luncheon owing to illness.

The attendance at the luncheon numbered 164. President Thompson presided and with him at the speakers' table were C. J. Braun, Jr., C. S. Mitchell, A. Hurlburt, A. W. Robertson, H. C. McEldowney, Judge James H. Reed, George E. McCague, J. D. Callery, W. L. Mellon, E. W. Smith, W. B. Carson, J. M. Graves, T. Fitzgerald and M. R. Scharff.

* * *

C. J. Bradley to Manage Havre Gas Company

Havre, Mont.—Clarence J. Bradley of Billings is now general manager of the Havre Natural Gas Company. Mr. Bradley has many years experience in the natural gas field, having recently been manager of the Laurel branch of the Billings Gas Company. He has also been employed in various capacities in the fields of Canada and the intermountain regions, and when mains were being laid in Havre several years ago when natural gas was installed, he worked there.

Lambert Meter Company Announces Additional Large Size Meters

To make its line of meters complete so that gas companies can be supplied with all sizes of meters, the Lambert Meter Company now manufactures a 60-1500 meter (60 lt.) and a 150-3400 meter (150 lt.) in addition to their 5-150, 10-375 and 30-875 meters.

These larger meters are completely hand built. The case sizes are 60 light and 150 light and the capacities 1500 cubic feet and 3400 cubic feet per hour at ½" differential, respectively.

All fittings are made out of bronze, are hand machined, and are heavily tinned. The rock shaft bracket is patented, containing a solid monel metal shaft.

The valve gratings are out of special composition white metal, the valve covers are of navy steam metal with monel metal tops, thereby making the valves lighter and yet absolutely non-corrodible.

The flag rods, rock shafts, and flag arms are over-size in cross-section to insure ample strength and resistance to wear.

Stuffing boxes are deep and large. Side pipes are full length, half the length being bronze and riveted securely to the sides. The flags are unusually strong and have a wide spread.

The tinplate used is extra heavy imported thickly coated English tinplate. The meter is adequately reinforced in many places.

The meters are standard in size and parts are interchangeable. The 60 light meter is designed for 55/100 revolution of the tangent per cubic foot and the 150 light 2/10 revolution per cubic foot.

* * *

Roper Range with Cooking Chart

In the illustration below, there is seen a new development which comprises a permanent cooking chart as a guide for the housewife, attached to the back of the door of each range. This is an innovation which has been patented by the George D. Roper Corp. Its purpose is to take the place of the cooking guides given in cook books or printed on cards to hang on the wall. It has an advantage over the latter in that it can never get lost.

The chart is burned onto the oven door lining and this idea developed from a suggestion made by J. P. MacSweeney, sales manager of the Rochester Gas & Elec. Corp., Rochester, N. Y. He thought that the chart should in some way be tied up with the range, and hence this innovation.

Imunol

This is the title of a booklet which has been published on the use of Imunol for the rust protection of gas holders by means of the automatic treatment of the inner and exterior walls. In this book diagrams are given showing exactly how the Imunol can be applied to the inner and outer surface of the holders. Instructions are also given therein, describing how the Imunol is used and equations are shown for calculating the quantities of Imunol required.

* * *

A. H. Wolff Gas Radiator Co. Changes Name

Announcement is made that the name of The A. H. Wolff Gas Radiator Co. has been changed to American Gas Products Corporation in order more clearly to define the extent and variety of the gas heating equipment manufactured and distributed by the former company. The change of name is effective April 1, 1926.

The American Gas Products Corporation will continue as sole distributor of Ideal Gas Boilers, manufactured by the American Radiator Company.

The existing line of gas appliances including gas-fired steam radiators, warm air radiators, radiant heaters, visible gas toasters, cookers and urn burners, will be maintained.

The headquarters office of the American Gas Products Corporation will continue at 376 Lafayette Street, New York. District Sales Representatives are located in Boston, Buffalo, Chicago, Philadelphia, Jacksonville, Kansas City, San Francisco, St. Louis and in other states.

FOUR SPECIFIC ADVANTAGES

to the gas industry of an organization, with the facilities and vision of the Standard Gas Appliance Corporation.

BRIEFLY, the four advantages are:

1. A complete line of gas appliances—constructed to meet the highest standards for safety, performance and quality construction.
2. A new type of merchandising co-operation.
3. A laboratory for research and testing that is the best equipped of its kind in the country.
4. A new national distribution service.

* * *

First, a complete line.

Smoothtop, Oriole, Triplex and Acorn Gas Ranges for homes and apartments. Vulcan Economy Hot-Top Hotel Ranges for hotels, institutions, schools, restaurants, clubs, hospitals, etc. Vulcan Broilers, Roasters, Bake Ovens, Short Order Stoves, Cake Griddles, Frankfurter Stoves, Waffle Stoves, Hot Plates, Bakers' and Confectioners' Stoves. Improved Tank Water Heaters. Storage Water Heaters. Laundry Stoves. Toasters. Urn Burners. Industrial Burners. Other products to be added.

This simplifies your purchasing problems. You can satisfy practically every gas appliance need at one source. Saves time and difficulty of dealing with half a dozen or more concerns for ranges, water heaters, burners, hotel equipment, etc. You will always know what to expect in the way of service, co-operation, adjustments, deliveries, and credit arrangements. Less bookkeeping. Less opportunity for mix-ups and misunderstanding. All appliances of a uniform safety, performance and construction standard.

* * *

Second, a new type of merchandising co-operation.

A co-operation that is more complete, more flexible, more helpful. One that takes the initiative in educating the consumer.

For instance, we have prepared for your use forceful campaigns for gas ranges, water heaters and hotel equipment.

For Smoothtop Ranges we offer you four definite and complete local campaigns. The same service is available for Oriole Ranges. Each campaign offers you a big opportunity for educating the consumer to the new convenience of gas, as well as for boosting appliance sales. Each campaign is different in appeal, yet all are linked together by a common objective — that of increasing the use of gas. The water heater and hotel campaigns also work toward the same goal.

These campaigns provide you with sufficient display, advertising, demonstration and publicity material to take care of a year's powerful activity. If you put them all into operation your community will be well on the way to becoming 100% for gas.

Aside from active education, these campaigns have other advantages. They create a demand for new, improved appliances. Through cooking demonstrations they increase the cooking activity of women. Because of their variety and attractiveness they keep your own organization sold on the bigness of gas service and stimulate them to more ambitious sales effort.

Our merchandising co-operation also includes large space advertising in twenty-

three industrial and trade publications, as well as four color advertisements in House & Garden, House Beautiful, Architectural Forum. Not to mention concentrated newspaper campaigns in a number of large metropolitan areas. All this breaks down sales resistance for you and influences the purchases of thousands of prospects.

* * *

Third, a laboratory that is the best equipped of its kind in the country.

Our laboratory has been functioning for many years under the direction of H. W. O'Dowd and has been dedicated to the improvement of gas appliances and to the advancement of the gas industry. The personnel has been increased while the floor space occupied is now four times the original size.

This laboratory is at the service of the industry for the solution of its problems. Scores of difficult and unusual problems are being constantly submitted by gas companies; while exhaustive experiments and tests on our own products are constantly in operation. A number of distinct improvements have been effected of which we are justly proud—such as the Smoothtop Range, the Super Vulcan Burner, the Vulcan Economy Hot-Top Hotel Range, the new water heater, etc, Many new projects are under way.

All appliances not only conform to strict A. G. A. specifications but in almost every instance exceed them. Before a new appliance is introduced it is subjected to months of the most severe testing, both in the laboratory and in actual field operation.

* * *

Fourth, a new national distribution service.

The recent acquisition of the Rathbone, Sard & Company plant at Aurora, Ill., gives us three manufacturing plants — strategically located in Jersey City, Baltimore and Aurora, Ill. As Smoothtop Ranges and Vulcan Hotel Equipment, in addition to Acorn Ranges, will be manufactured at the Aurora plant, you are assured of prompt and economical delivery service to all parts of the country.

VULCAN
Smoothtop
ORIOLE
TRIPLEX
Acorn
STANDARD WHERE GAS IS USED

STANDARD GAS EQUIPMENT CORPORATION

Vulcan—Oriole—Triplex—Acorn Divisions

18 East 41st Street New York, N. Y.

Pacific Coast Distributors:

NORTHWEST GAS & ELECTRIC EQUIPMENT COMPANY

Portland, Oregon

Branch Offices: Los Angeles and San Francisco, Cal.

Charles W. Wardell Takes on New Account

The Columbus Heating and Ventilating Company, Columbus, Ohio, announce the appointment of Charles W. Wardell, Philadelphia, Pa., as their Eastern Representative, with offices and display room at No. 2405 Chestnut Street. The Columbus Warm Air Furnace, used successfully by utilities in the middle west for nine years, will now be actively campaigned in the eastern states.

Mr. Wardell's organization will work hand in hand with gas companies in an effort to convince the consumer of the advantages of gas for heating of homes and business places.

* * *

News From Uehling Instrument Co.

The Uehling Instrument Co. of Paterson, N. J., announces the appointment of Mr. W. B. McBurney, 619 Trust Co. of Georgia Bldg., Atlanta, Ga., as representative for Georgia and eastern Tennessee, in connection with Apex CO_2 Recorders and Indicators, Fuel Waste Meters and combined Barometer and Vacuum Recorders.

Mr. Charles C. Phelps, secretary and sales manager of the Uehling Instrument Co., Paterson, N. J., has just completed a ten weeks trip visiting all of the company's southern representatives as well as several in the middle west. Most of this time was devoted in actual field work with the idea of better fitting the representatives to cooperate with users of Apex CO_2 Recorders and Fuel Waste Meters. Mr. Phelps made a special study of the application of these instruments in oil refineries, for which service they have been widely adopted.

* * *

Pulverizing Machinery Co. to Make Rotary Meters

New York City.—As of January 1st, 1926, the Pulverizing Machinery Company has taken over the patents, tools, patterns and equipment, as well as the testing and calibrating apparatus of the old Rotary Meter Co., and is continuing the manufacture as well as service on the Rotary Meters, retaining the service of Mr. C. P. Mayer, who had been serving in the capacity of superintendent of the Rotary Meter Company for the past twenty years, as well as some others of the former personnel of the Rotary Meter Company. Improved and more modern machinery has already been installed, and it is the intention of the Pulverizing Machinery Company, Rotary Meter Division, to more actively prosecute the business.

J. H. Goetz Elected Director New York & Richmond Gas Company

New York, N. Y.—Jacob H. Goetz has been elected a director of the New York and Richmond Gas Company, increasing the membership of that body by one. The company operates in the Borough of Richmond, and is controlled by Dawes Brothers, Inc.

Oklahoma Gas & Electric Company Acquires Consumers Properties

Chicago, Ill.—Oklahoma Gas and Electric Company is making arrangements for the purchase of the properties of Consumers Light and Power Company, Ardmore City Gas Company and Wilson Ice Company, according to announcement by H. M. Byllesby and Company. The combined properties of these companies furnish electric light and power, gas or ice to 15 communities, including the cities of Ardmore, Durant, Healdton, Ringling, Wilson and other important centers located in the southern part of Oklahoma and having a total estimated population in excess of 44,000. Acquired by the Byllesby interests in the summer of 1925, these properties have been operated since that time under the supervision of the Oklahoma Gas and Electric Company.

Oklahoma Gas and Electric Company has sold an additional issue of $4,000,000 first mortgage 5 per cent gold bonds to a syndicate headed by H. M. Byllesby and Company, and including Federal Securities Corporation, E. H. Rollins and Sons, Spencer Trask and Company and Harris Trust and Savings Bank. Public offering was made Tuesday, March 23, at a price of 95 and interest, to yield 5.37 per cent. The proceeds from the sale of this issue of bonds and other securities will provide funds for the acquisition of these properties, and to reimburse the Company for expenditures for extensions and additions heretofore and now being made to its properties.

* * *

New Catalog Ready

Harry E. Kerr, president, The Cleveland Gas Burner & Appliance Company, Cleveland, Ohio, announces that the company has ready for distribution its literature illustrating and describing its new line of Barber Jet Burners, which have been undergoing severe tests during the past year. These new burners will be brought out in twelve various designs having gas capacities ranging from six cubic feet to two hundred and fifty cubic feet per hour upon three inch gas pressure. These new burners, while embodying the Barber Patented Jet principles, are unique in design, in that they produce a shorter flame than the present types which is desirable in many appliances. Other models and designs are under way to meet the requirements of special appliances. Literature will be sent on request.

Trucks of the Bridgeton Gas Light Co. with Ruud Radiator Protector

Contracts Awarded

The Nassau & Suffolk Lighting Co., Hempstead, N. Y., is preparing to make extensive additions to its plant in order to take care of the increasing load. In order to increase the manufacturing capacity, they have awarded contract to the U. G. I. Contracting Co., Philadelphia, for the installation of an 11 ft. cone top carburetted water gas apparatus of the latest design. This set will be equipped with automatic control arranged for the use of soft coal. The additional equipment will increase the plant capacity by approximately 3,500 cu. ft. per day.

The U. G. I. Contracting Co. of Philadelphia has made arrangements with the Smoot Engineering Corporation of New York, whereby the former company will control the sale of the Smoot Control for water gas apparatus. The Smoot Control seems to be the ultimate refinement in water gas operation and functions to insure the correct amount of air, steam and oil to the apparatus at all times, irrespective of fluctuations in initial pressure and volume.

The Tampa Gas Company has awarded to the U. G. I. Contracting Co., Philadelphia, contract for the installation of two 30 ft. circular steel purifiers, together with their connections. This work is in addition to the contract previously awarded to the U. G. I. for water gas apparatus, waste heat boilers, automatic controls, etc.

The Southwestern Gas and Electric Company of Biloxi, Miss., have awarded to the Western Gas Construction Company the contract for furnishing water gas apparatus, steel building, holder and other auxiliary apparatus for the improvements at their plant at Biloxi, Miss.

The Byllesby Engineering and Management Corporation have placed a contract with the Western Gas Construction Company for the furnishing and erecting of a high pressure storage tank for LaJolla, Calif. This tank will have an approximate capacity of 98,000 cu. ft. of gas between the pressures of 55 lbs. and 7 lbs.

This type of tank will take the place of the water tank holder.

The Byllesby Engineering and Management Corporation have placed a contract with the Western Gas Construction Company for adding a lift to the 150,000 cu. ft. holder at Mankato, Minn.

* * *

Gas Schedule Approved

Albany, N. Y.—The Public Service Commission has approved new schedule of the Iroquois Gas Corporation for gas service supplied in cities of Buffalo, Lackawanna and Salamanca; villages of Angors, Blasdell, Cattaraugus, Depew, East Aurora, Hamburg, Lancaster, Little Valley, Orchard Park, Springville and Williamsville; and towns of Allegany, Amherst, Aurora, Bolivar, Brant, Cheektowaga, Collins, Concord, East Hamburg, Elma, Evans, Genesee, Great Valley, Hamburg, Lancaster, Little Valley, New Albion, Olean, Otto, Salamanca and West Seneca; in counties of Allegany, Cattaraugus and Erie. Schedule effective February 12, 1926, under authority of order of the commission dated December 17, 1925, in Case No. 2748, provides a new classification for use of service for fuel, light and power, available to industrial and (or) commercial consumers. Rate is 70 cents per thousand cubic feet for first 50,000 cubic feet and 65 cents per thousand cubic feet for all over 50,000 cubic feet consumed per month, based on cost of coal of $5 per net ton, and subject to standard surcharge. Minimum charge regulation requires that the consumption during the months of June, July and August shall be not less than 50 per cent of the average for the other nine months of the year. Discount of 5 cents per thousand cubic feet will be allowed on bills paid on or before the date specified thereon.

Albany, N. Y.—The Public Service Commission has approved new gas schedules as follows:

Halfmoon Light, Heat & Power Co. for gas service supplied in city of Mechanicville. Various changes in rules and regulations governing service, filed to become effective April 1, 1926. Present regulation providing that free service connection will be made into customer's cellar changed to provide that customer will be required to pay for all work done on his property. Charge for restoring service discontinued on account non-payment of bills increased from $1 to $1.50.

Municipal Gas Company of the City of Albany. Gas service supplied in cities of Albany and Watervliet, village of Green Isnaldna and town of Colonie. Regulation heretofore providing that customer will be required to pay all cost for running service beyond lot line changed, to include the rates (per foot) which the company charges for installation of services on property of consumer, viz: 1-inch service 70c; 1.5 inch service 70c; 2-inch service 85c; 3-inch service $1.05; 4-inch service $1.60.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF AMERICAN GAS JOURNAL.

Published weekly at New York, N. Y., for April 1, 1926.

State of New York, County of New York, ss.: Before me, a notary public in and for the State and county aforesaid, personally appeared Stanton G. Krake, who, having been duly sworn according to law, deposes and says that he is Manager of the American Gas Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of Publisher—American Gas Light Journal, Inc., 53 Park Place, New York, N. Y. Editor—Ismar Ginsberg, Far Rockaway, N. Y. Managing Editor—Stanton G. Krake, Brooklyn, N. Y. Business Manager—Stanton G. Krake, Brooklyn, N. Y.

2. That the owners are: American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.; Elbert P. Callender, San Francisco, Cal.; Stanton G. Krake, Brooklyn, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capcity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

STANTON G. KRAKE,
Business Manager.

Sworn to and subscribed before me this 7th day of April, 1926.

E. M. DE GROVE.

(Seal)

(My commission expires March 30, 1927.)

Give 'em What They Want

Many Successful Businesses

have and are being made on the above logic. Pick out something the public really wants, make it do a good job at a reasonable cost, tell them you have it, and success will follow.

The Number of Water Heaters

we have sold this season leads us to believe we are giving 'em what they want. By removing the barriers to volume sales of water heaters we have opened the road to a strong, stable business. Are you traveling along that road?

Welsbach Storage Water Heaters

retail as low as $90. They include both side-arm and self-contained models. They bear the Welsbach name, which guarantees the material and workmanship.

Write for information on sales plan, discounts and deliveries

WELSBACH COMPANY

GLOUCESTER, N. J. *Member American Gas Association* *Branches in Principal Cities*

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

Space available for exhibition purposes permits of an increase of 50 per cent over last year, and will be arranged so that entrance to and exit from the general sessions and commercial section auditoriums will be via all exhibits.

Unsurpassed facilities for entertainment. The main ballroom is directly off the boardwalk and can accommodate with ease a crowd of the proportions attracted to a gas convention.

Meeting rooms are conveniently reached and are large enough to take care of all demands.

Ample space is available for the registration counters and other innovations which are now being planned.

The coming October convention will be the fifth time that the association has met at Atlantic City. Each year the difficulty of finding adequate facilities has become a greater one, especially as regards the exhibition of appliances and apparatus. At last year's convention, the exhibition not only outclassed anything of the kind ever held previously, but in order to take care of demands for space, additional facilities had to be provided.

The Million Dollar Pier will give the association its long-desired opportunity to increase the available exhibition space to a point where provision can be made for everyone who wishes to display. The Exhibition Committee of the Manufacturers' Section is already planning for a show twice the size of last year's.

* * *

Eden Gas & Fuel Co. Rates Approved

Albany, N. Y.—The Public Service Commission has approved a new schedule of the Eden Gas & Fuel Co. for natural gas service supplied in the town of Eden, county of Erie. Rate for use of service for fuel and lighting increased from 50c to $1 per thousand cubic feet. Minimum charge, $1 per month per meter. Effective April 1, 1926, by special permission of the commission.

Consolidated Gas to Erect Huge Office Building

New York City.—Rising like a mammoth monolith to a height of four hundred and twenty-five feet, the tower of the Consolidated Gas Company's completed office building on Irving place between 14th and 15th streets, partly on the site of the old Academy of Music, will begin the recrudescence of historic Irving place and the rejuvenation of that old section of the city.

The work of demolishing the old Academy of Music to make way for this unusual piece of architectural art will probably begin in May, and it is expected that it will be a year before the immense structure will be completed. The new part of the edifice, including the tower and its decorative features, will represent an expenditure of $7,500,000. That, with the present building on the southeast corner of Fifteenth street and Irving place, will bring the Consolidated Gas Company's investment to approximately $12,000,000.

The building, when completed, will be occupied exclusively by the Consolidated Gas Company of New York and its affiliated gas and electric companies, which includes the New York Edison Company and the United Electric Light and Power Company. The expansion of the business of all these companies has compelled the enlargement of display room and office facilities.

* * *

W. L. Hoyt Joins American Gas Products Corpn.

W. L. Hoyt, formerly engineer with the industrial department of the Rochester Gas & Electric Corporation, in the house heating division, has recently become associated with the American Gas Products Corporation, distributors of Ideal Gas Boilers and manufacturers of other gas heating equipment.

Mr. Hoyt will represent the American Gas Products Corporation on the Pacific Coast.

Mr. Hoyt is a graduate of Williams College, Class of 1919, and was previously in the electrical industry, having been connected with the Sibley-Pittman Electric Corporation and with the General Electric Company, Schenectady, N. Y.

His wide knowledge and varied training in house heating, both for warm air, steam and hot water systems, will be of particular value on the West Coast owing to the growing interest on the part of gas companies in that territory in resident and industrial gas heating.

A New Type of Merchandising Cooperation

More complete, more flexible, more helpful — one that takes the initiative in educating the consumer

THE big problem before the industry is that of educating the nation to the advantages of gas.

There is nothing new or startling in this statement. It has often been made before. But like all truths it can bear repeating. The important thing is to translate it into action.

Which brings us to our 1926 merchandising cooperation. It all hinges on an active educational appeal.

First, we supply local campaigns for educating your consumers, through advertising and demonstrations, to the new convenience of cooking with gas.

Second, through our Home Service Department, we furnish Cooking Experts for conducting special cooking and home economics demonstrations.

Third, through intensive newspaper campaigns in a number of large metropolitan areas we are stimulating an awakened interest in gas as utilized by up-to-date, improved appliances.

Fourth, through page advertisements in Architectural Forum and Building Age, we are educating builders and architects to the need for quality gas appliances.

Fifth, through four-color page advertisements in House & Garden and House Beautiful, we are creating a demand for the new style kitchen, just as the bathroom manufacturers have created a demand for modern bathrooms.

Sixth, through page advertisements in American Cookery, American Food Journal and Journal of Home Economics, we are educating cooking instructors and experts (the habit-makers of the country) to the superiority of gas.

This gives you an idea of some of the special campaigns we have prepared for your local use. A very fine campaign for Acorn Ranges has just been prepared.

Seventh, through advertising in sixteen trade and industrial publications, we are paving the way for immediate sales of hotel ranges and equipment, such as broilers, bake ovens, burners, griddles, confectioners' stoves, etc.

Eighth, by means of attractive and well-planned literature we effect a powerful direct-mail follow-up.

* * *

Nor is this half the story of the merchandising cooperation we are offering you this year. We have only outlined in very brief, condensed form the high spots of all we are doing. Complete details would more than fill the entire issue of this magazine.

Paramount in importance to you, however, is first, the idea back of this cooperation, and second, the method employed to carry it out.

The idea, as previously stated, is to educate the actual consumer.

As for the method, you will note that in the eight phases outlined we have taken direct aim at actual prospects. Nor have we tried to educate the entire nation overnight. Rather, we have decided in favor of the more logical method of educating the key prospects first—those who are most likely to be in the immediate market for gas appliances and those who once converted can do the industry the most benefit because of the influence they exert.

For instance, builders and architects influence the yearly

purchase of hundreds of appliances in their community. They decide whether gas, electricity, oil or coal will be used — and what quality of appliances will be installed.

There are the readers of House & Garden and House Beautiful. These readers are actively interested in building or remodeling their home. This makes them active prospects. And they have real publicity value. New homes always attract attention.

Then there are the local campaigns we supply you for educating your consumers on the spot. They are complete in every detail and so planned and developed that they provide you with material for a whole year's sales and educational activity.

And we could elaborate on the other phases in the same way. There is nothing hit-or-miss about this type of cooperation. It is direct and practical in application. You can cash in on it for full value.

* * *

You may be interested in the list of publications we are using. It is as follows:

American Restaurant
American School Board Journal
Architectural Forum
Bakers Helper
Bakers Review
Building Age
Cafeteria Management
Club Management
Confectioner Journal
Hotel Management
Hotel Monthly
Hospital Management
Modern Hospital
National Hotel Review
Pacific Coast Record
Restaurant Management
School & College Cafeteria
American Cookery
American Food Journal
Journal of Home Economics
House Beautiful
House & Garden

Perchance you may want a copy of our Portfolio describing our educational campaigns for local use. If so, a copy will be gladly sent at your request. Specify which of the following appliances you are most interested in: Smoothtop, Oriole, Triplex or Acorn Ranges; Water Heaters; Vulcan Hotel and Restaurant Equipment.

VULCAN
Smoothtop
ORIOLE
TRIPLEX
Acorn
STANDARD WHERE GAS IS USED

The STANDARD GAS EQUIPMENT CORPORATION

Vulcan—Oriole—Triplex—Acorn Divisions

18 East 41st Street **New York, N. Y.**

Pacific Coast Distributors
NORTHWEST GAS & ELECTRIC EQUIPMENT COMPANY
PORTLAND, OREGON
Branch Offices: Los Angeles and San Francisco, Cal.

Over 8 Million Homes WANT THIS CHEAP HOT WATER

2 Ft. Artificial Gas Per Gallon

1 Ft. Natural Gas Per Gallon

HIGH prices and high operating costs have kept gas water heaters out of about 85% of the homes in this country now using gas for other purposes. They have been waiting for an economical, automatic, trouble-proof heater where Economy begins with purchase and never ends.

When you handle Welsbach automatic storage water heaters, you offer that tremendous waiting market such distinct advantages as

Low Price
Exceptionally Low Gas Consumption
Efficient Operation

One dealer sold TEN TIMES AS MANY WELSBACHS in the first four months of 1926 as he sold of all other makes in any previous four months period. Another dealer sold THIRTY WELSBACH'S IN ONE MONTH in 1926 as compared with a total of 60 water heaters of other makes sold DURING THE ENTIRE YEAR OF 1925.

Write for Sales Plan, Discounts and Deliveries

WELSBACH COMPANY

Member American Gas Association **GLOUCESTER, N. J.** *Branches in Principal Cities*

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

Gas Rates Approved in Albany

Albany, N. Y.—The Public Service Commission has approved the rates of the Municipal Gas Company of the City of Albany for schedules filed effective April 15, 1926, provide rates and charges as follows for use of gas service in new territory served: From gas main laid in Shaker Road in town of Colonie; from a main extension in Central Avenue in City of Albany and the Albany-Schenectady Road in town of Colonie, beginning at terminus of main as it existed on April 8, 1926; from a main extension in Western Avenue in City of Albany and the Great Western Turnpike in town of Guilderland, beginning at former Terminus at Clermont Street; in town of Bethlehem served from a main extension beginning at the terminus of the main as it existed on April 8, 1926, in Delaware Avenue in City of Albany: For lighting and fuel, block rate (per M. C. F.)—First 25,000 C. F. $1.20; next 25,000 C. F. $1.10; all over 50,000 C. F. per month $1; minimum charge $2 per month. For fuel for residence heating furnaces, either steam, hot water, or hot air, rates as follows per month: First 10,000 C. F. or less, $12; for each of the next 15,000 C. F. $.80 per M. C. F.; for all consumption in excess of 25,000 C. F. 65c. per M. C. F.; minimum charge $12 per month during heating season, which omits June, July and August. For industrial purposes, block rate (per M. C. F.)—First 25,000 C. F. $1.20; next 25,000 C. F. $1.10; next 50,000 C. F. $1; next 100,000 C. F. 90c.; next 300,000 C. F. 80c.; next 500,000 C. F. 70c.; all over 1,000,000 C. F. per month 65c.; minimum charge $2 per month.

The Public Service Commission has approved the rates of the Adirondack Power and Light Corporation for gas service supplied in City of Glens Falls, villages of Hudson Falls, Fort Edward, and South Glens Falls, and towns of Kingsburt, Queensbury, Fort Edward and Moreau. Schedule effective May 1, 1926, provides block rate (per M. C. F.) as follows for general use of service: First 1000 C. F. $2.15; next 4000 C. F. $2.00; next 5000 C. F. $1.90; next 10,000 C. F. $1.80; next 10,000 C. F. $1.60; next 20,000 C. F. $1.50; all over 50,000 C. F. $1.45; minimum charge $1 per month. Present rate is block (per M. C. F.) as follows: First 1000 C. F. $2.15; next 4000 C. F. $2.00; next 5000 C. F. $1.90; next 40,000 C. F. $1.80; all over 50,000 C. F. per month $1.70; minimum charge $1 per month.

The Public Service has approved the rates of the Troy Gas Company, for gas service supplied in city of Troy and village of Waterford. Schedules effective April 18, 1926, effect general reduction of 5 cents per M. C. F. for use of service. New rates are as follows: For retail light, heat, and power, straight line rate $1.25 per M. C. F. For wholesale light, heat, and power, block rate (per M. C. F.)—First 100,000 C. F. $1.15; next 100,000 C. F. $1.05; excess per month 95 cents.

* * *

Contracts Awarded

For the Counties Gas & Electric Company, the U. G. I. Contracting Company is installing foundations and preparing for the installation of additional transformers at the Barbadoes Island sub-station.

At the Ardmore, Pa., station of the Counties Gas & Electric Co., it is building a large fireproof garage that will be capable of housing the motor equipment of that company. At the same station it is also building a four story brick building which is used as a general storehouse for the Counties Gas Company, and at the West Conshohocken Gas Plant it is installing additional purifier equipment, consisting of 30 ft. boxes, together with necessary connections for same. Also electric driven revivifying equipment for the purification system.

This and many other orders that The U. G. I. Contracting Company has on its books indicates a very active season for its engineering and erection forces.

At the West End Works of the Jersey City Plant of the Public Service Electric and Gas Company, Chrisman Cycles together with new generators, are to be installed on two 10′ twin generator carburetted water gas sets. The contract has been awarded to The U. G. I. Contracting Company of Philadelphia, and the work will be completed at an early date.

The Chrisman Cycle has successfully demonstrated raising the capacity of water gas sets, while at the same time, reducing generator fuel per M and more perfectly balancing the operation of the apparatus.

The U. G. I. Contracting Company has recently received an executed contract which is rather unique inasmuch as it has been executed by a woman president and attested by a woman secretary of one of the country's large utilities.

Reference is made to the Brooklyn Borough Gas Co. and its President, Miss Mary E. Dillon, and Secretary, Miss Mary E. Armstrong. Miss Dillon has awarded to The U. G. I. Contracting Company a contract to furnish and install at the Coney Island plant a U. G. I. vertical waste heat boiler, which will be connected to two 11′ carburetted water gas sets and will furnish the necessary steam supply for the apparatus with which it is connected. It is interesting to note that the U. G. I. now has 11 waste heat boilers going through the shops for early installation.

The Gas Machinery Company of Cleveland, O., has been awarded contract to furnish silica retort setting, recuperators complete, for three benches of inclined sixes at Jacksonville, Fla.

The Public Service Company of Greensboro, N. C., has awarded a contract to The Gas Machinery Company of Cleveland, Ohio, for one set of seven-foot carburetted water gas apparatus.

The set is to be operated by hand hydraulic control levers, electric elevator charging the generator, overhead operating floor, blast equipment, air and steam meters and pyrometer.

The contract also includes special water tube condenser and by-pass.

TO say that Welsbach automatic storage water heaters "sell themselves," might seem like exaggeration. Yet, when Welsbach advantages are fully understood, people quickly realize that hot water need no longer be an expensive luxury.

And THAT is the big message over eight million homes have been waiting for.

Hot water provided by a Welsbach, is CHEAP hot water. Low first cost, very low gas consumption, trouble-proof and efficient operation are the outstanding features that influenced TWO HUNDRED PEOPLE TO BUY A WELSBACH FROM ONE DEALER IN THE FIRST 4 MONTHS OF 1926 in a city of approximately 100,000 gas meters.

Write for Sales Plan, Discounts and Deliveries

WELSBACH COMPANY

Member American Gas Association GLOUCESTER, N. J. *Branches in Principal Cities*

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

County Gas Company Employees Organize

Keansburg, N. J.—Thirty-four of the employees of the County Gas Company gathered in Atlantic Highlands at a dinner following which the County Gas Company Employees Association was formed. All of the employees present entered into the association with enthusiasm, and following the dinner was an address by the vice-president and general manager, Howard A. Stockton. A round table discussion was held, a number of the employees taking part.

Paris Farmer, superintendent of the plant, was elected president; Earl Finnegan, Keyport superintendent, vice-president; Miss Mildred Herbert, stenographer, secretary, and George Alward, assistant superintendent of distribution, treasurer. In addition to these officers various standing committees were appointed, among them being the program, finance, entertainment and relief.

It is proposed to hold a meeting each month, having three or four dinner meetings during the year. The next meeting of this nature will probably be held in Keansburg, the place to be selected later.

The employees feel that with an association of this kind they will be able to render the public a better service, and also will be able to create a closer co-operation between the various departments, resulting in a benefit to both the company and the individual employees.

* * *

Plattsburg Gas Sale Allowed

Albany, N. Y.—Permission has been granted by the Public Service Commission to the purchase by the Plattsburg Gas and Electric Company of the franchises, works and systems of the Chasm Power Company of Chateaugay, the Champlain Electric Company of Champlain and of Norman I. White of Ellenburgh. The three systems serve a wide territory in Franklin and Clinton counties and it is proposed to link them with the Plattsburg plant.

The Commission fixed the valuations at which the properties are to be transferred, after an examination of the books and properties by its accountants and engineers, as follows: Chasm Power Company, $162,511.78; Champlain Electric Company, $80,067.50; Norman I. White, $18,623.34. The order authorizing transfer of the Chasm Power Company contains a provision for reopening of the case for the purpose of revalution or readjustment of valuation if the company is legally or finally restricted or prohibited from rendering service in the village of Chateaugay.

* * *

Contracts Awarded

The Ohio Gas Light & Coke Company of Napoleon, Ohio, have awarded contract to the Gas Machinery Company of Cleveland, Ohio, for foul main and connections, complete with power driven pressure regulator, primary condenser, bypass and connections and Roots Exhauster, bypass and connections.

This equipment is to be used with the new by-product gas ovens which The Gas Machinery Company is now erecting at Napoleon, and is to be delivered and erected on foundations furnished by the gas company.

The Hudson Valley Coke & Products Corporation of Troy, N. Y., has awarded contract to The Gas Machinery Company of Cleveland, Ohio, for water gas equipment to convert the twelve foot Blue Gas Set in their plant into a Carburetted Water Gas Set.

The original installation made by The Gas Machinery Company consisted of one twelve-foot Carburetted Water Gas Set and one twelve-foot Blue Gas Set, each complete with waste heat boilers and exhaust steam equipment for generators.

* * *

Roper Brings New Industry to Rockford

Rockford, Ill.—Simultaneously with announcement that the George D. Roper Corporation of Rockford has bought the C. B. Babcock Gas Fired Warm Air Furnace works of San Francisco, Watson E. Derwent, vice-president of the Roper company, announced here that the big Pacific coast plant will be moved to Rockford immediately.

"We have bought the Babcock works in its entirety—tools, equipment, jigs, dies, etc., and will bring it here at once," Mr. Derwent stated. "The deal involves a large amount of capital. The factory, for the present, will be located in our South Main Street plant and in the old Trahern plant. Ultimately it will be moved to the southeast end works.

Increases Local Payrolls

"Absorption of the Babcock plant will materially increase both our payroll and our working capital here, and we intend to get behind the new enterprise with the full force of our national advertising and national sales organization.

"Eventually, I believe, the gas fired warm furnace industry will become as large or even larger than the gas range industry. That appears to be the present trend, as gas seems destined to be the heating method of the future."

First Roper Furnace Line

This is the Roper corporation's first venture into the furnace manufacturing field, and in selecting its line it has acquired a pioneer in the entire industry.

The Babcock Company was originally established fifteen years ago by officers of the Eastern Ohio Gas Company, with headquarters in Cleveland.

Later it was purchased by Babcock and taken to the Pacific coast, where the idea of the use of gas in a central heating plant was first "sold" on a large scale.

C. B. Babcock, former owner of the works which bore his name, will remain with the Roper Corporation in an advisory capacity.

* * *

New Westminster Gas Co. Sold

Vancouver, B. C.—The British Columbia Electric Railway Company, Vancouver, B. C., has purchased the New Westminster Gas Company and intends to supply that city by means of a high pressure main, eight miles in length, passing through the municipality of Burnaby, which it will also serve by means of a franchise granted on April 19, 1926.

The Westminster Gas Company was owned by the late James Cunningham, under the terms of whose will the property was ordered sold. It consists of some twelve miles of mains and the coal gas plant of horizontal retorts of an old pattern.

Over 8 Million Homes WANT THIS CHEAP HOT WATER

2 Ft. Artificial Gas Per Gallon

1 Ft. Natural Gas Per Gallon

HIGH prices and high operating costs have kept gas water heaters out of about 85% of the homes in this country now using gas for other purposes. They have been waiting for an economical, automatic, trouble-proof heater where Economy begins with purchase and never ends.

When you handle Welsbach automatic storage water heaters, you offer that tremendous waiting market such distinct advantages as

Low Price
Exceptionally Low Gas Consumption
Efficient Operation

One dealer sold TEN TIMES AS MANY WELSBACHS in the first four months of 1926 as he sold of all other makes in any previous four months period. Another dealer sold THIRTY WELSBACH'S IN ONE MONTH in 1926 as compared with a total of 60 water heaters of other makes sold DURING THE ENTIRE YEAR OF 1925.

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Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

New Catalogs

The Lattimer-Stevens Company, Cleveland, Ohio, recently issued a new catalog, No. 16, which shows their complete line of meter connections, meter shelves, iron body stop-cocks, recess stop-cocks, stop-cock cylinders, meter cylinders, swivels and caps. The catalog contains 56 pages printed in two colors on enamel stock and the entire line is freely illustrated and described.

Sullivan Machinery Company, Chicago, Ill., recently issued the following bulletins:

Bulletin 81-I—Twelve pages—Sullivan Concrete Breakers, featuring two new types—DW-221—75-lb. Heavy Duty Buster, and 48-lb. DP-221 Light Buster, for concrete breaking in street opening, demolition work of many kinds, etc. The term "Buster" has just been registered as a trade mark to designate this type of tool.

Bulletin 81-J — Sullivan Clay Spader — eight pages, shows a number of interesting pictures of this useful type of compressor air tool at work.

Bulletin 74-B — Describes the Sullivan Standard Oil and Gas Drill Steel Heating Furnace, including mention of the magnetic indicator for determining the critical point in heating steel for tempering.

Bulletin 83-B—New edition, describing Sullivan Single Stage Belt Driven Air Compressors, Class WG-6.

American Gas Furnace Company, Elizabeth, N. J., has just issued a four-page leaflet entitled "Your Carburizing Costs Can Be Materially Reduced by Installing American Rotary (Retort Type) Carbonizing Machines." This company also manufactures a complete line of gas furnaces, heating machines, gas burners and blowpipes, positive pressure blowers, etc.

Superior Meter Company, Brooklyn, N. Y., has issued a four-page leaflet describing their new Super-B-Meter. They state that they have considerably reduced the number of revolutions in this type of meter and at the same time have increased its capacity. They show tables of comparisons in revolutions per five feet and cubic feet per hour of their ten-light, thirty-light and sixty-light meters. A copy of this leaflet will be mailed on request.

* * *

Contracts Awarded

The Gas Machinery Company of Cleveland, Ohio, has been awarded a contract by the Florida Public Service Company of Orlando, Fla., for one nine-foot carburetted water gas apparatus complete with overhead operating floor, blast equipment, air and steam meters, pyrometers and safety explosion check valve.

Contract also includes a water tube waste heat boiler and auxiliary equipment, high pressure condenser, exhauster, tar washer and gas connections with bypasses.

This new water gas set will be installed beside the set furnished by the Gas Machinery Company in Orlando a few years ago.

The Cambridge Gas Light Company of Cambridge, Mass., have also placed order with The Gas Machinery Company for silica retort settings to convert their twenty foot benches of through eights into twenty foot benches of through tens.

* * *

Gas Companies to Expend Large Sum

Fond du Lac, Wis.—More than $3,000,000 will be spent by gas companies in Wisconsin this year to extend their service in keeping with increased demands by industries and homes, S. B. Sherman, Racine, told the gas section of the Wisconsin Utilities Association. Mr. Sherman is chairman of the section.

Among the major extension and improvement expenditures he listed are: Milwaukee, $1,400,000; Racine, Kenosha, Waukesha and Watertown, $1,000,000; Madison, $230,000; Beloit, $204,870; Sheboygan, $166,600; Two Rivers, $147,500; Green Bay, $94,000; Fond du Lac, $85,320; Oshkosh, $64,500; Superior, $37,250; Menominee and Marinette, $37,500; Beaver Dam, $27,050; Ripon, $20,000. Funds also will be spent in La Crosse, Appleton, Manitowoc, Eau Claire, Janesville, Ashland, Stevens Point, Stoughton, Marshfield, Rhinelander, Burlington, Chippewa Falls, Hudson, Baraboo, Berlin and Platteville, he said.

* * *

Utility Holdings Bring $500,000 Profit

New York City.—The International Utilities Corporation has sold its holdings in the South Western Utilities Corporation and the South Western Public Service Corporation, which operate in Kansas City and Oklahoma.

P. M. Chandler, president of the International Utilities, said:

"The price at which these properties were disposed of to the Union Gas was conservative when compared with the engineers' valuations, but because the International Utilities acquired these properties originally upon such favorable terms the profit in cash and securities is $500,000."

As a result of this transaction the first mortgage 8 per cent. bonds of the South Western Utilities, due 1936, will be called for redemption at 110 and interest.

The Union Gas Corporation represents the recent merger of a number of oil and gas properties.

An Attractive Range Display

TO say that Welsbach automatic storage water heaters "sell themselves" might seem like exaggeration. Yet when Welsbach advantages are fully understood, people quickly realize that hot water need no longer be an expensive luxury.

And THAT is the big message over eight million homes have been waiting for.

Hot water provided by a Welsbach is CHEAP hot water. Low first cost, very low gas consumption, trouble-proof and efficient operation are the outstanding features that influenced TWO HUNDRED PEOPLE TO BUY A WELSBACH FROM ONE DEALER IN THE FIRST 4 MONTHS OF 1926 in a city of approximately 100,000 gas meters.

Write for Sales Plan, Discounts and Deliveries

WELSBACH COMPANY

Member American Gas Association **GLOUCESTER, N. J.** *Branches in Principal Cities*

Welsbach

AUTOMATIC STORAGE GAS WATER HEATERS

Contracts Awarded

The Gas Machinery Company of Cleveland, Ohio, has received a contract for a complete new water gas plant to be erected at Ithaca, N. Y.

The gas company has purchased a new tract of land for this plant and has completed the piling, foundations and grading.

The new plant will include two water gas sets, relief holder, condenser, exhauster, tar extractor, purifiers, storage holder, yard piping, boiler plant, oil storage tank, small piping and auxiliary equipment.

The gas company will also lay a connecting main between the new works, the old works and their present distribution system.

The Gas Machinery Company of Cleveland, Ohio, has also been awarded a contract by the Grand Rapids Gas Light Company for exhaust steam equipment to be used in connection with two water gas sets.

The exhaust steam accumulator will supply steam for a 10'6" and an 11' carburetted water gas set and the equipment will consist of accumulator and regulating valves.

* * *

H. H. Ferris New General Manager of Public Service Company of New Jersey

Newark, N. J.—Twenty-seven years in the gas business is the service record of Herbert H. Ferris, who has just been made general manager of the gas department of Public Service Electric & Gas Company.

Mr. Ferris was graduated from Worcester Polytechnic Institute in 1899, and started that year with the American Gas Company as assistant to the superintendent of the New Rochelle, N. Y., works of that company.

In 1904 Mr. Ferris became connected with the Hudson County Gas Company as assistant superintendent of manufacture and distribution. Later he was made superintendent of the Hoboken Works and in 1905 became superintendent of the West End Works, Jersey City, which had just been constructed by Public Service. He went to Newark in 1913 as engineer of manufacture, Essex Division, and was made general superintendent of manufacture in 1922, his field embracing the entire New Jersey territory of Public Service.

* * *

John A. Clark, New V.-P. Public Service of New Jersey

Newark, N. J.—John A. Clark, Jr., has been appointed vice-president in charge of operation, Gas Department, Public Service Electric and Gas Company, to succeed Henry D. Whitcomb, who died May 8. The appointment was made by the board of directors.

Mr. Clark, who has been general superintendent of distribution since 1917, was graduated from Union College in 1895, with the degree of B. E. He entered the service of the East River Gas Company, New York, as gas engineer, July 1, 1895, and remained with that company and its successor, the New Amsterdam Gas Company, until March 1, 1898, when he went to the Newark Gas Company as superintendent. This company was afterwards merged into the Newark Consolidated Gas Company, which was one of the many taken over by Public Service Corporation of New Jersey in 1903.

On March 1, 1899, Mr. Clark became superintendent of distribution of the Orange, Montclair and Summit district and on November 1, 1908, he was made engineer of distribution of Essex Division, becoming general superintendent of distribution February 1, 1917.

Mr. Clark, who lives in East Orange, wears the gold button indicative of twenty-five years' service with Public Service and predecessor companies.

P. G. & E. Co. Makes Improvements to Marysville's Plant

Has Two Types of Gas Generators Working Side By Side, One Making Gas From Oil and the Other Making Gas From Coal

San Francisco, Calif.—The Marysville gas plant of the Pacific Gas & Electric Company will soon have two types of gas generators working side by side, one making gas from oil by the process now in general use in the Pacific Gas & Electric system, the other making gas from coal by a new process that has proved successful in the East. Close tabs will be kept on the comparative economics of the two methods, and the decision as to whether similar installations will be made in other large plants of the system will depend on the result of the Marysville experiments.

Meantime another step will have been taken in the company's plan to concentrate gas generation at central plants and distribute the product throughout a large territory by means of high-pressure mains. A 32 mile trench is being cut for a gas line from Marysville to Oroville, preparatory to establishing a distribution system similar to the Sacramento-Woodland line, the San Rafael-Santa Rosa line and the Peninsula line connecting San Francisco and San Jose. The plan effects several economics, for, as W. S. Yard, company vice-president in charge of gas construction and operation, points out, it makes large production on a small area possible, it requires a smaller capital investment and it does away with the high-cost small plant.

Many changes are being made at the Marysville plant. Besides two nine-foot gas generators of the new type there will be installed much machinery, including pumps, blowers, washer coolers, multiple washers and tar extractors. The changes at the plant alone will cost in excess of $170,000, and then there will be the cost of the 32 miles of trench and the gas mains. It is a big job, but when it is all done Marysville will be the supply point of a large territory and many persons now out of the reach of gas lines will get as good gas service as the residents of large cities.

Incidentally, the new method of gas making is not a return to that in use in the days before the introduction of oil machines. Then the coal had to be baked twelve or fourteen hours in a retort. With the machines now being installed, coal will be transformed into gas in five minutes.

LOOK for the RED WHEEL
LORAIN OVEN HEAT REGULATOR
LORAIN OVEN HEAT REGULATOR
LOOK FOR THE RED WHEEL

First in the Field

THE LORAIN Oven Heat Regulator was invented by one of the experimental engineers of American Stove Company and was the *first* thermostatic device ever applied to a Gas Range for the purpose of automatically regulating the oven heat.

Today, it is the *only* Oven Heat Regulator manufactured entirely and unconditionally guaranteed by the manufacturer of the gas ranges into which it is built.

The *first* heat-regulated gas range ever put to satisfactory test and use in a home was equipped with a Lorain Oven Heat Regulator.

The *first* stoves with Oven Heat Regulators to be used in schools for teaching the art of cooking were Lorain-equipped Gas Ranges.

The *first* gas stoves with Oven Heat Regulators to be put into service in hospitals, industrial research kitchens, clubs, churches, restaurants and factory kitchens were Lorain-equipped Gas Ranges.

The *first* device of its kind to be given editorial notice by America's leading, national, trade and scientific publications was the Lorain Oven Heat Regulator.

American Stove Company was —

— the *first* to perfect and to promote Time and Temperature Oven Cooking, now universally accepted as the one, best method.

— the *first* to discover and to perfect the process of using live, regulated heat for long-period cooking of Whole Meals in the oven of a gas range.

— the *first* to compile, publish and to give with each heat-regulated gas range a complete cook book on Time and Temperature Oven Cooking.

— the *first* to establish a research kitchen and to employ the services of a nationally-known expert for the purpose of creating and disseminating ideas, recipes, menus and information for the benefit of buyers of gas ranges with oven heat control.

— the *first* in the field with a corps of salesmen capable of giving actual demonstrations of Time and Temperature Oven Cooking.

— the *first* to establish a Research Laboratory for scientific research into the problems of design and construction of gas appliances.

The Lorain Oven Heat Regulator has been consistently advertised for many years in National Publications; in Architects' and Builders' Publications; in Domestic Science Publications; in Gas, Furniture and Hardware Trade Papers; in Newspapers.

The total circulation of Lorain Advertisements runs into a hundred million annually and they reach practically every actual and prospective gas range user in America.

Millions of prospective customers have seen and read advertisements of the Lorain (RED WHEEL) Regulator, and each year ever-increasing thousands of housewives purchase Gas Ranges equipped with this world-famous device.

Why not sell the ORIGINAL, the "First in its Field", the leader, and maintain your reputation of "Quality Merchandise Only?"

These famous Gas Stoves are equipped with the Lorain Oven Heat Regulator:

CLARK JEWEL	DIRECT ACTION	QUICK MEAL
DANGLER	NEW PROCESS	RELIABLE

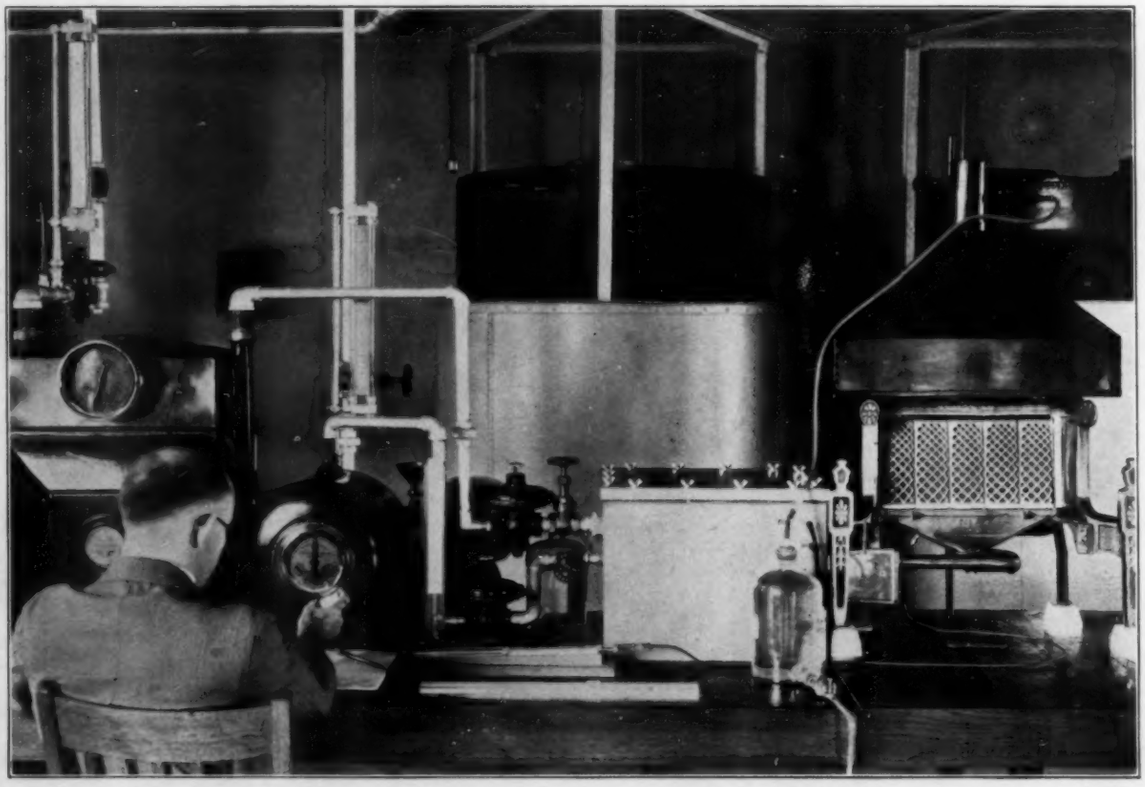
AMERICAN STOVE COMPANY

The Largest Makers of Gas Ranges in the World

801 CHOUTEAU AVENUE **ST. LOUIS, MO.**

Where Science Insures Perfection of Famous Red Wheel Gas Ranges

The Research Laboratory of American Stove Company, St. Louis, Mo.



Primary-air Measuring Outfit Built by Research Laboratory to Study Performance of Gas Burners

Where Science Insures Perfection of Famous Red Wheel Gas Ranges

AT 4931 Daggett Avenue, St. Louis, Mo., is located the Research Laboratory of American Stove Company. Housed in a building erected especially for the purpose, this Laboratory is probably the finest in the world dedicated to the improvement of gas-burning appliances.

In this Laboratory all types of gas-burning appliances are tested under the penetrating eye of modern science in order that the efficiency of appliances manufactured by American Stove Company will always excel.

American Stove Company occupies an enviable position of leadership—which it intends to maintain. It gave to the world the first Oven Heat Regulator, the (Red Wheel) Lorain.

To American Stove Company must go the credit for educating the Public through National Advertising regarding the remarkable advantages of Time and Temperature Oven Cookery.

Also, this Company was (and still is) first among stove manufacturers to establish Research Kitchens under the direction of a noted Domestic Science Authority.

To assist its sales-agents to sell its famous Red Wheel Gas Ranges, American Stove Company, in addition to its incomparable national advertising, furnishes: a handsome, 128-page cook book with each Lorain-equipped Gas Range; elaborate Window Trims; a perpetual Newspaper Ad-service; a monthly Sales-help Magazine (Magic Chef); Electric Signs and Demonstrating Devices; tested Sales-plans; Instruction Books for Retail Salesmen; a helpful Bulletin Service for Teachers of Cookery; and many other Sales-aids.

You will profit more under the "Banner of the Red Wheel." *Your* customers will like *you* better if you sell them Lorain-equipped Gas Ranges. Try it.

AMERICAN STOVE COMPANY

Largest Makers of Gas Ranges in the World

829 CHOUTEAU AVENUE **ST. LOUIS, MO.**

These Famous Gas Stoves are equipped with the Lorain Oven Heat Regulator:

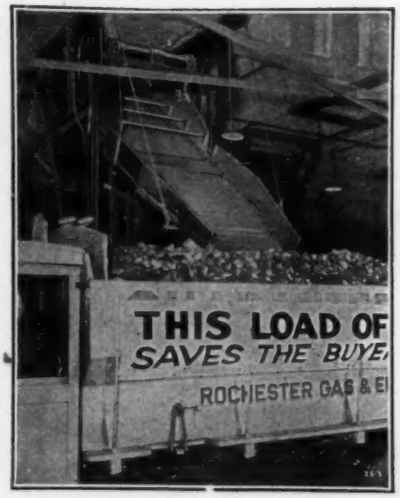
QUICK MEAL—
Quick Meal Stove Co. Div. St. Louis, Mo.
RELIABLE—
Reliable Stove Co. Div. Cleveland, Ohio
CLARK JEWEL—
George M. Clark & Co. Div. Chicago, Ill.

DANGLER—
Dangler Stove Co. Div. Cleveland, Ohio
DIRECT ACTION—
Direct Action Stove Co. Div. Lorain, Ohio
NEW PROCESS—
New Process Stove Co. Div. Cleveland, Ohio

LORAIN OVEN HEAT REGULATOR

For Cleaner Coke in 1926

Re-Screen with a Mitchell



Why the Rochester Gas and Electric Corporation of Rochester, N. Y., delivers their "Guaranteed Coke" clean and attractive.

Showing one of a battery of twelve Mitchell Electric Vibrating Screens suspended from structural iron work, under coke storage bins, delivering direct to truck.

WE DESIGN AND BUILD:

Industrial Railways, Automatic Railways, Cable Railways, Cars, Tracks, Switches, Motor Cars, Scales, Conveyors, Skip Hoists, Electric Vibrating Screens, Cut-off Valves, or Gates, Weighing and Measuring Devices, Coal Crackers, "Stevedore" Transmission Rope and Hoisting Rope, and the "Flotograv" (Coke Reclamation System).

The unusual opportunity for the Gas Companies to dispose of their coke during the latter months of the old year revealed to them that the public will accept this clean-burning, economical fuel as a substitute for anthracite and, especially, soft coal.

If ALL gas companies would only follow the example of some of the more progressive coke producers in the gas industry and give more consideration to the appearance of their coke, their sales of this commodity would vastly increase and likewise their profit.

The cost of installing a single unit, or even a battery of Mitchell Electric Vibrating Screens, will amply repay the expenditure in long service, prestige and a larger list of profitable coke users. Resolve, in the New Year, to re-screen your coke—at the lowest cost per ton—with a Mitchell.

No breeze can cling to the coke after it has sustained 3,600 vibrations per minute as in the Mitchell. These terrific, sustained vibrations, occurring at the rate of 60 times a second—the result of a circular motion which throws the cloth up into the coke to be screened, and a side sifting motion, similar to the old-fashioned hand shaking screen, acting in unison —violently agitate every portion of the screen and preclude the possibility of any dead areas on the surface.

Despite the violence of the 3,600 per minute vibrations, the screen structure remains firm and rigid—so much so that a pencil will stand on end on the frame while the screen is running. The screen cloth on the Mitchell can be changed in 15 minutes by two men. Furthermore, the screen cloth does not have to be purchased in specified lengths, but can be bought in the roll and cut as desired. This enables a supply to be kept on hand for use as needed.

The vibrator can be handled easily by two men without the use of a crane, if it becomes necessary to make changes.

Send for New Screen Catalog

We Wish You All a Happy and Prosperous New Year

C. W. HUNT COMPANY, Inc.

West New Brighton, New York City

PHILLIPS, LANG & CO., Inc., 431 So. Dearborn St., Chicago, Ill.

ENGINEERING EQUIPMENT CO., LTD. 358 Beaver Hall Square, Montreal.

ERNEST F. LEARNED, 141 Milk St., Boston 9, Mass.

Why Wait

until customer complaints, due to excessive sulphur in your gas, rob you of their good will?

Keep their good-will; keep your gas sulphur free; keep your purification costs down by using

IRON HYDROXIDE

Purifying Materials of Quality

Favorably Known for Twenty Years

Use them Now!

We Guarantee Results!

A generous sample is ready for you—where shall we send it? Write name and address plainly.

IRON HYDROXIDE COMPANY

Paschall Station - - - Philadelphia

GILBERT C. SHADWELL, 76 Cortlandt St., New York

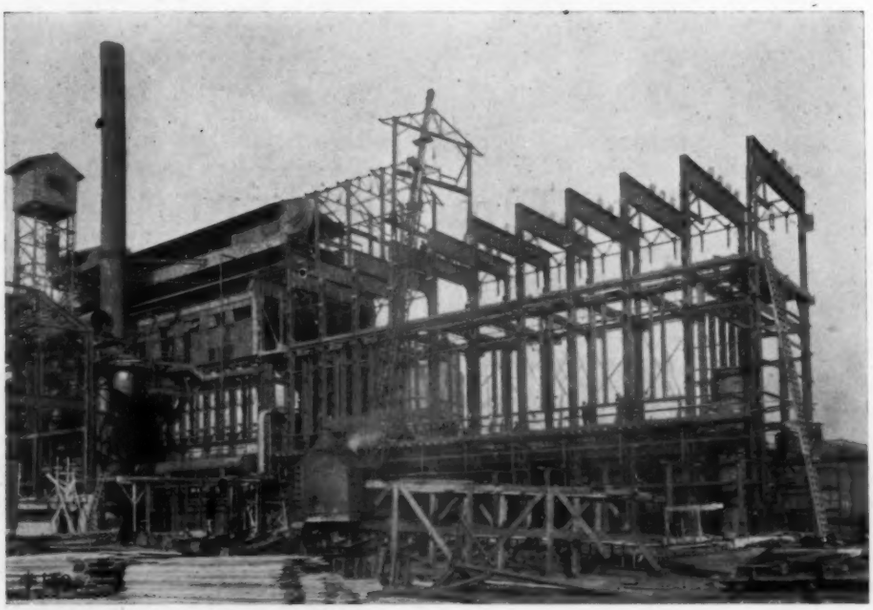
U. G. I. VERTICAL RETORTS

at the Hiawatha Avenue Plant of

The Syracuse Lighting Co. Inc.

The first 3,000,000 c.f. unit was completed and started up May 7, 1925

The illustration shows the second 3,000,000 c.f. unit under construction



Total daily capacity of plant—6,000,000 c.f.

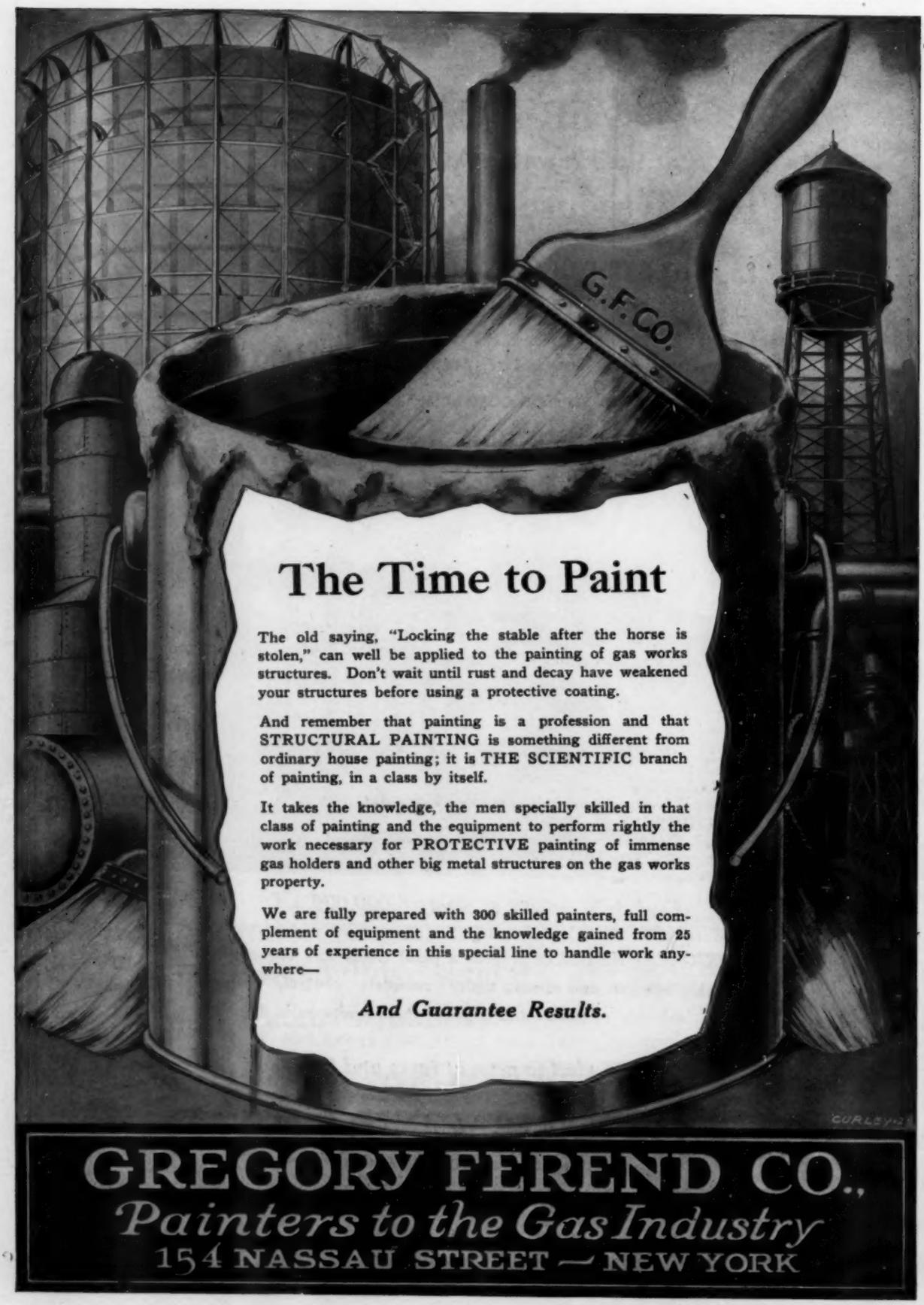
U. G. I. VERTICAL RETORTS provide a plant easily and economically operated, highly efficient and always under complete control, giving high yields, valuable residuals and a coke which is always in demand

We are glad to present facts and figures

The U.G.I. CONTRACTING COMPANY

Broad & Arch Sts., Philadelphia

421 Peoples Gas Bldg., Chicago **928 Union Trust Bldg., Pittsburgh**



The Time to Paint

The old saying, "Locking the stable after the horse is stolen," can well be applied to the painting of gas works structures. Don't wait until rust and decay have weakened your structures before using a protective coating.

And remember that painting is a profession and that STRUCTURAL PAINTING is something different from ordinary house painting; it is THE SCIENTIFIC branch of painting, in a class by itself.

It takes the knowledge, the men specially skilled in that class of painting and the equipment to perform rightly the work necessary for PROTECTIVE painting of immense gas holders and other big metal structures on the gas works property.

We are fully prepared with 300 skilled painters, full complement of equipment and the knowledge gained from 25 years of experience in this special line to handle work anywhere—

And Guarantee Results.

GREGORY FEREND CO.,

Painters to the Gas Industry

154 NASSAU STREET — NEW YORK

Why Is a Gas Appliance?

Probably nowhere else in the world is the use of gas for fuel purposes so general as in Southern California. There are scores of gas appliances manufactured in Los Angeles and sold in the local market.

The Pacific Coast Gas Association wanted to be able to

Pick the Good from the Bad

and found, in its study of the question, that no judgment could be made until a standard laboratory procedure had been developed. This study has resulted in the

Gas Appliance Testing Code

The only manual of laboratory practice in gas appliance testing now in print.

AUTHORITY

Prepared and edited by the Technical Section of the Pacific Coast Gas Association under the supervision of E. L. Hall of the Portland (Oregon) Gas & Coke Company, Chairman of the Section. The special committee which compiled this volume was headed by R. M. Conner, now Director of the Gas Appliance Testing Laboratory of the American Gas Association. Mr. Conner was assisted by Walter M. Berry, formerly Gas Engineer of the Bureau of Standards and now Executive Engineer of the California Gas Research Council, and Prof. S. H. Graf of the Oregon State Agricultural College.

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APPENDIX—Tables of Orifice Capacit y, Gas Flow and Gas Constants.

ILLUSTRATED 5½ x 7½ CLOTH 143 pp. $5.00 POSTPAID

PACIFIC COAST GAS ASSOCIATION

447 SUTTER STREET, SAN FRANCISCO, CALIF.

4 GOOD REASONS

Why we are qualified to erect Your Gas Holder

1. Our Organization

Composed of men who, through many years of practical experience have become experts and who realize that your interests are as important as theirs.

2. Our Equipment

Modern up-to-the-minute equipment assuring you of speed and accuracy in fabricating and efficiency in erecting your gas holder.

3. Design

Whatever your holder requirements may be, our engineering personnel guarantees fulfillment.

4. Location

Our plant is admirably situated in the hub of the steel industry, assuring you an adequate supply of raw materials at all times.

Pennsylvania Engineering Works

Gas Construction Division

Main Office and Works New Castle, Pa.

New York Office 55 William St.

KEYSTONE OF SERVICE

ABILITY TO SERVE

Backed by an organization prepared to serve every way in the operation and maintenance of its holders. . . . . .

Repeat orders constitute 75% of our business, thereby indicating complete satisfaction. . . .

Gas Holders of any capacity.

Stacey Bros.

Gas Construction Co.

Cincinnati Ohio

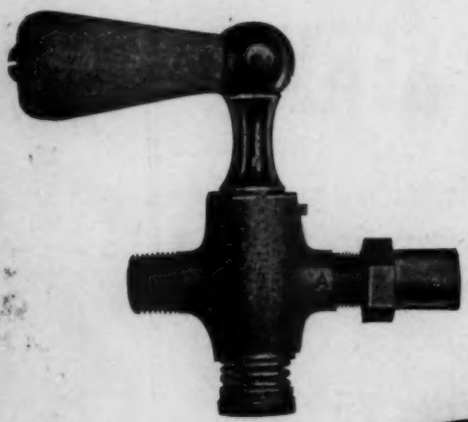
J. E. STACEY, Pres. A. J. STACEY, Vice-Pres.
A. L. POPE, Sec'y and Treas. W. A. MILLER, Chief Eng.
WAYNE STACEY, Sales Mgr. P. C. RODGERS, Asst. Sales Mgr.

BRANCH SALES OFFICES

Eastern Representative.....P. P. McENANEY, 350 Madison Ave., New York City
New England Representative..EASTERN SERVICE CO., Boston
Pacific Coast Representative..C. B. BABCOCK CO., San Francisco

ACME GAS COCKS

Quality—Quantity—Price



In buying gas cocks for the initial equipment of gas appliances of every character, or for replacements, the three factors noted above usually govern the selection. Acme Gas Cocks meet all three requirements—Quality, Quantity and Price.

Acme Quality is attained through the wise selection of materials; through standardized methods of production, in which every process from the pouring of the metal, through the machining operations and finishing rooms are attended with the greatest care into the final inspection.

This final inspection of Acme Gas Cocks comprises a most rigid test made with specially designed apparatus invented by us—first used over two years ago—by which any defects in boring, or any tendency to leakage are quickly detected.

Our numerous customers can therefore be assured that everything humanly and mechanically possible has been done to maintain the high standard of perfection characteristic of Acme Gas Cocks.

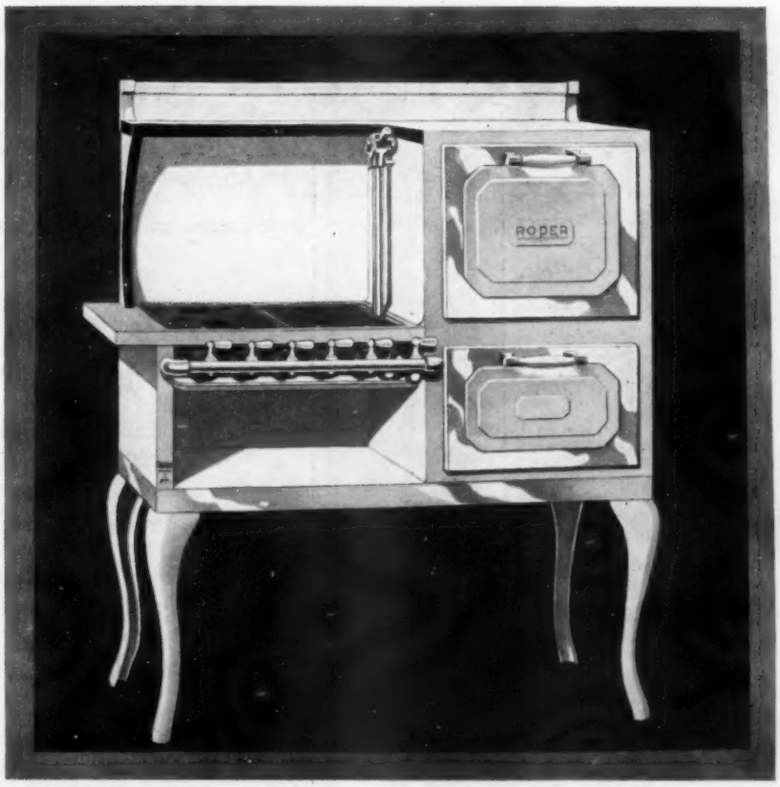
Our unusual manufacturing facilities, comprising a most modernly equipped plant, coupled with our extensive experience, enable us through standardized practice to produce the Acme line in great quantities, with the utmost uniformity, and at prices that we believe to be unequaled.

ACME BRASS WORKS

8211 Collins Avenue and Belt Line R. R. DETROIT, MICH.

NEW YORK OFFICE, 150 NASSAU ST.

CHICAGO OFFICE, 79 WEST MONROE ST.



Starting now—
the greatest year of all for ROPER Merchants

Merchants in all parts of the country report that 1925 set new records on their Roper sales. It has been the most successful year in Roper's forty years of making fine ranges.

And now, in 1926, all indications point toward even greater business—even larger profits than in the past year—for merchants handling the line.

With Roper Ranges firmly intrenched in a position of quality leadership—with thousands of women openly enthused over and telling their friends about Roper efficiency and beauty—with Roper advertising and sales plans more powerful than ever—the way is clear!

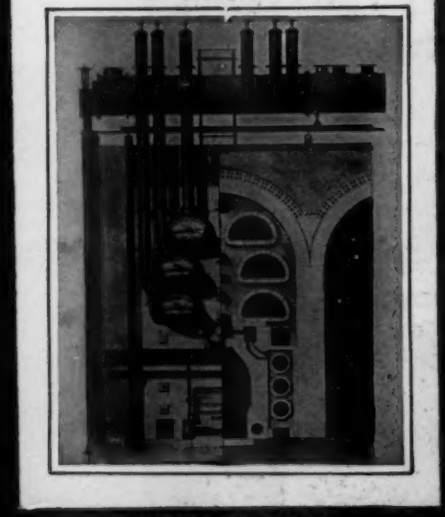
If you are not already fully acquainted with Roper Ranges, Roper plans and Roper policies, let us give you complete information about them. Learn how to make your range business more important and more profitable year in and year out.

GEO. D. ROPER CORPORATION,
Rockford, Ill.

Pacific Coast Branch: 135 Bluxome St.
San Francisco, California

ROPER
GAS RANGES

Be sure The Roper Purple Line and the Roper Complete Oven Control are on The Range you sell.



COMPLETE
COAL GAS PLANTS

HORIZONTAL GAS OVENS

DOHERTY
FUEL ECONOMIZER BENCHES

DOHERTY
WASHER-COOLER

REFRACTORIES MATERIALS

DOHERTY OIL SPRAY

THE IMPROVED
EQUIPMENT CO.
Engineers and Builders
24 State St. New York

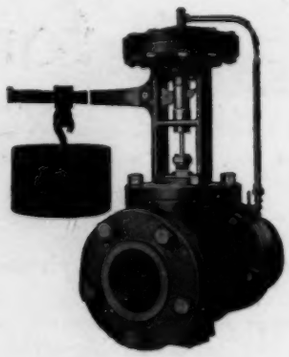
REDUCING REGULATOR

for Extremely High Pressure

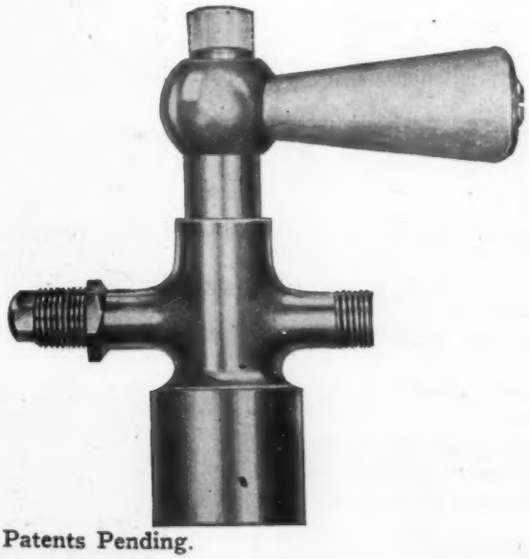
WE make High Pressure or Reducing Regulators to withstand and control the highest pressures known; and have them in use where it reaches the enormous pressure of 2,000 pounds to the square inch. We can furnish these regulators for any inlet pressure, reducing to any given outlet pressure from 5 pounds to 300 pounds.

Our regular line of High Pressure Regulators may be used on any inlet pressure up to 600 pounds. For higher pressures we make a special class of regulators, for which special prices will be quoted on application.

High Pressure Regulators are made in all sizes up to 24 inches.



THE
CHAPLIN-FULTON
MANUFACTURING
COMPANY
Pittsburgh . . Pa.



Patents Pending.

DOUBLE CONTROL SAFETY GAS COCK

That Defies Accidental Opening

For use on Ranges, Heaters and wherever a reliable gas cock is required

The plunger must be depressed before gas flows. When plunger is at normal—as shown by dotted lines on illustration—handle can be turned and gas *cannot* escape.

Absolute Safety at All Times

Made in all standard styles, or for your special requirements. Furnished in nickel or brass with metal or porcelain handles. A combination of Utility, Safety and Beauty.

Users of gas appliances are willing to pay for the absolute safety afforded by this doubly positive gas control.

Samples and prices on request

R. LIEFKE & CO.

92 GREENE STREET NEW YORK

CO-INCIDENCE OR BRAINS

The Big Money Making Plants are those who get Ridgway Elevators.

Here is a sample of the 3000—we print 3 times 7 (the perfect number) equals 21 for Luck!

Standard Oil Co.	International Harv. Co.	Remington Typewriter Co.
Cluett, Peabody & Co.	Standard Underground Cables Co.	R. J. Reynolds Co.
H. J. Heinz Co. ("57")	John Wanamaker	Procter & Gamble Co. (Ivory Soap)
Crane & Co. (Dalton)	John Morrell & Co.	E. I. Du Pont de Nemours & Co.
Packard Motor Car Co.	Christie Brown & Co. (Toronto)	American Tobacco Co.
Swift & Co.	Firestone Tire & Rub. Co.	Sears, Roebuck & Co.
United Gas Imp. Co.	Consolidated Gas Co. (N. Y.)	United States Steel Co.
Larkin & Co. (Buffalo)		Westinghouse Elec. Co.
General Electric Co.		
Penn. R. R.		

WHY DO CONCERNS SUCH AS THESE MAKE MONEY BIG MONEY?

WHY DO CONCERNS SUCH AS THESE GET RIDGWAY ELEVATORS.

LOTS OF THEM?

Just a mere coincidence or Brains?

THAT IS TO SAY—WILL THE QUALITY OF BRAINS SMART ENOUGH TO GET RIDGWAY ELEVATORS

Run the concern as wisely in the other directions of Buying, Manufacturing and Selling?

Yes—we think so, "DEADIE."

And while we say just for fun "three times seven is 21 for Luck—"

There is no such thing as Luck—unless you will say some day, "I was lucky to—

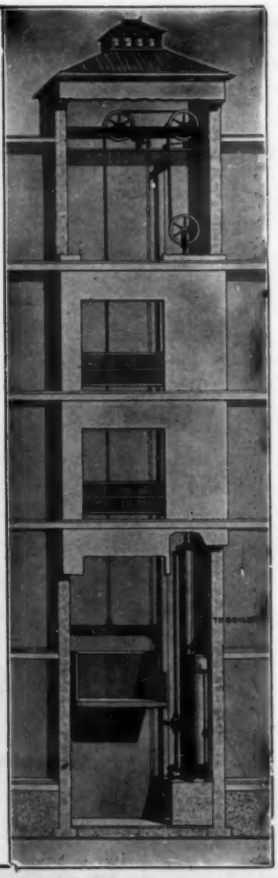
'HOOK 'ER TO THE BILER'"

Craig Ridgway & Son Co.

Over 3,000 in daily use **COATESVILLE, PA.**

Double Geared

Direct Acting



THE GAS MACHINERY CO.,
CLEVELAND, OHIO.

COAL AND WATER GAS APPARATUS,

BENCHES,
BY-PRODUCT GAS OVENS,
PURIFIERS,
AMMONIA CONCENTRATORS,
TAR EXTRACTORS,
VALVES AND CONNECTIONS,
WASHERS,

COMPLETE GAS PLANTS,

BY-PRODUCT AND SPECIAL MACHINERY.

No 787

N. HENRY GELLERT, C. E.

CONSULTING ENGINEER

BULLITT BUILDING PHILADELPHIA, PA.

Engineering Service

Gas Management

Appraisal Rates

Construction

Design

PARKER-RUSSELL

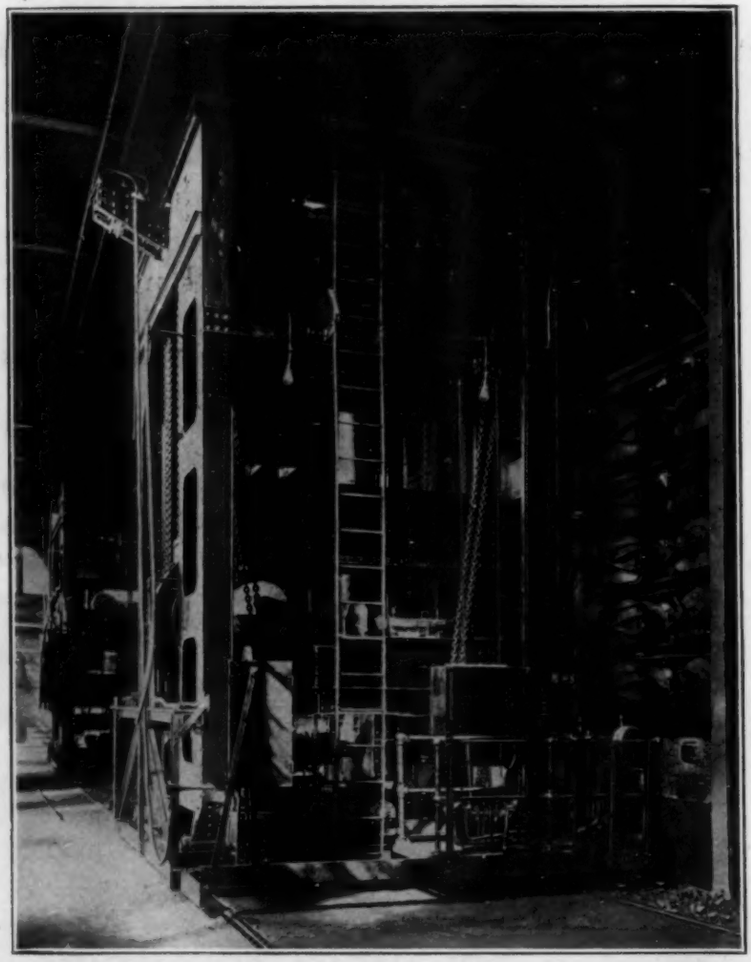
St. Louis

Silica Retorts
Congdon Scrubber Standpipe
Fiddes Aldridge Charging Machines
Water Gas Linings
Boiler Setting Refractories
Ignition Arch Tile

Manufacturers of

"PARCO" Products

DE BROWER COMBINED CHARGING AND DISCHARGING MACHINE



A repeat order recently installed for Lowell Gas Lt. Co., Mass.

The BARTLETT HAYWARD CO.
Engineers and Founders
BALTIMORE NEW YORK

Only ONE out of SEVEN

Of the nine million

gas metered homes, only one out of seven has a modern gas water heating appliance. What is keeping this necessity out of the other six?

The outstanding reasons are:

(1) Original Cost.

(2) Cost of Operation.

(3) Lack of understanding of available methods.

(4) Nature of product, does not bring amusement—cannot be eaten, worn or driven. It is out of sight and mind.

The Welsbach Company

has taken count of every one of these sales obstacles and offers a carefully conceived, well rounded, thoroughly tested plan to those interested in making the sale of gas water heaters a strong, stable business.

Welsbach Water Heaters

are made to meet the specifications of gas companies and bear the official O. K. of the most conservative. They are made in 20, 30 and 50 gallon sizes, with either galvanized or copper tanks. Retail prices range from $90 to $290.

Write for information on sales plan, discounts and deliveries

WELSBACH COMPANY

Member American Gas Association

GLOUCESTER, N. J.

Branches in Principal Cities

Welsbach

Automatic Storage Gas Water Heaters

Now You Can Quickly Repair Your Own Recording Thermometers and Gauges

No more need of carrying an extra recording thermometer or gauge in stock for emergency use in case of accident. No more need of sending your instruments to the factory for repairs and possibly ruining hundreds of dollars' worth of goods while waiting days or weeks for their return.

If the actuating system of an improved Columbia *Round* Case Recording Thermometer or Gauge is accidentally damaged, you can easily and quickly slip in a new recording system right in your plant and then send the damaged system to us for adjustment. An extra recording system can be carried in stock at small cost.

The new sealed adjusting device permits making slight adjustments yourself if instruments get out of calibration by rough handling.

Other marked improvements are explained in our new Catalogs H-56 and E-56. Send for a *copy.*

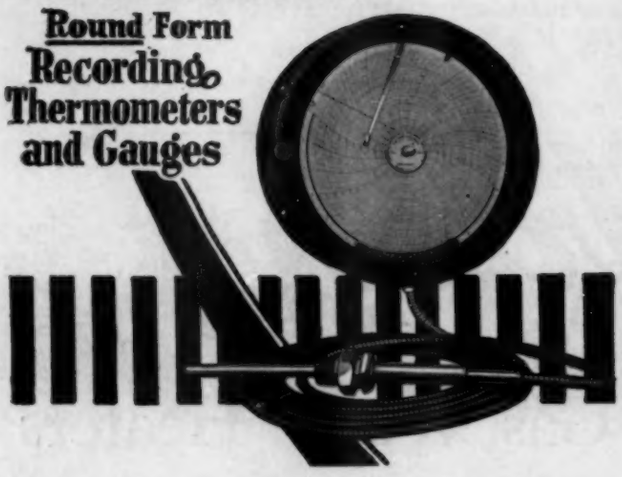
AMERICAN SCHAEFFER & BUDENBERG CORP.
Brooklyn, N. Y.

Member American Gas Association
Manufacturers of Columbia Gas Makers' Gauge

*Boston	Cleveland	Salt Lake City	Philadelphia
Buffalo	Detroit	*Seattle	*Pittsburgh
*Chicago	*Los Angeles	Tulsa	

* Stock carried at these branches.

Columbia
Round Form Recording Thermometers and Gauges



METERS

For Measuring Production and Distribution of

Gas
Gasoline
Oil

and Other Fluids

PITTSBURGH METER COMPANY
General Office and Works:
7800 Susquehanna Street, Pittsburgh Pa.

SALES OFFICES

New York—50 Church St.	Columbia, S. C.—1433 Main St.
Chicago—5 So. Wabash Ave.	Seattle, Wash.
Kansas City—Mutual Bldg.	Los Angeles—Union Bk. Bldg.

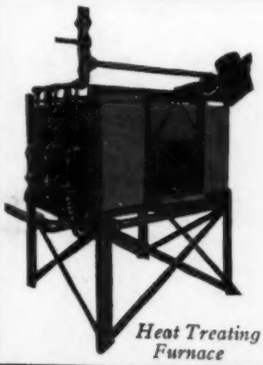
FLANGE END VALVES

We can furnish Valves for working pressures up to 1200 lbs. per sq. in.

Send for Circular 5

The LUDLOW
VALVE MANUFACTURING COMPANY
TROY, N. Y.

New York 68 Gold Street	Boston Tremont Bldg.	Philadelphia Harrison Building
Chicago The Rookery	Pittsburgh Oliver Bldg.	Kansas City R. A. Long Bldg.



Heat Treating Furnace

We Manufacture a Complete Line of

PROPORTIONAL CONTROL VALVES

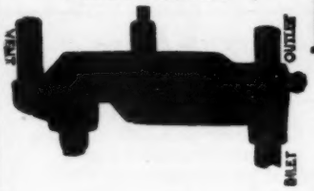
INDUSTRIAL FURNACES

POWER GAS BURNERS

Section of Burner

SWEET & DOYLE FOUNDRY & MACHINE CO., TROY, *(Green Island),* **N. Y.**

HIGH PRESSURE



REYNOLD'S

ARTIFICIAL GAS GOVERNORS

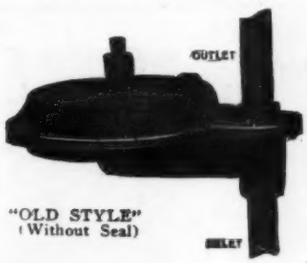
and

NATURAL GAS REGULATORS

For All Kinds of Pressure Reduction

Write for catalog

SERVICE GOVERNORS



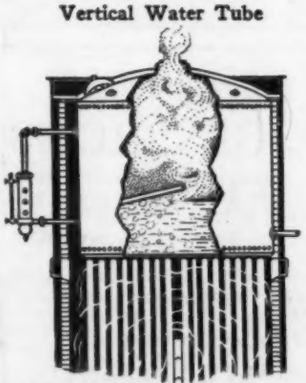
"OLD STYLE" (Without Seal)

COMBINATION STYLE (With Mercury Seal)

Reynold's Gas Regulator Co.

ANDERSON, INDIANA, MAIN OFFICE AND WORKS

Vertical Water Tube

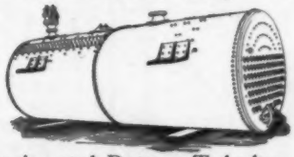


Great Height from Water Line to Steam Outlet Insures Dry Steam

WICKES

Steam Boilers

Ask for bulletins describing in detail,



Horizontal Return Tubular

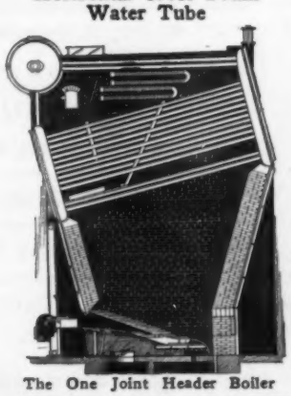
THE WICKES BOILER CO.

Saginaw, Michigan

SALES OFFICES

Pittsburgh, 1218 Empire Bldg. New York, 501 Fifth Ave.
Detroit, 1116 Penobscot Bldg. Chicago, 76 West Monroe St.
Seattle, 736 Henry Bldg.

Horizontal Cross Drum Water Tube



The One Joint Header Boiler

IRON OXIDE

A prepared iron boring oxide whose physical properties make it purify at least cost.

Let us solve your purifying troubles

GAS PURIFYING MATERIALS CO., Foot of Halsey St., Long Island City, New York

Russell Engineering Company *St. Louis*

Coal Carbonization Plants, Benches, Repairs, Improvements, Extensions, Apparatus

Now You Can Quickly Repair Your Own Recording Thermometers and Gauges

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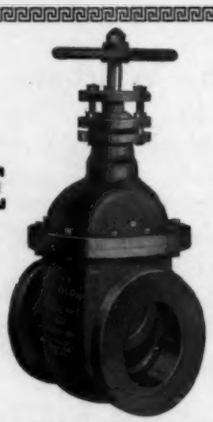

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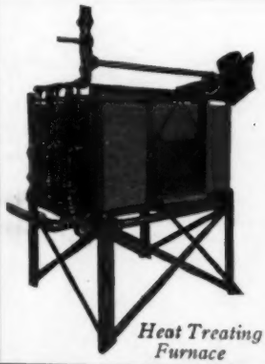

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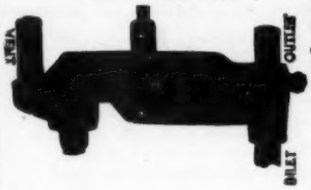

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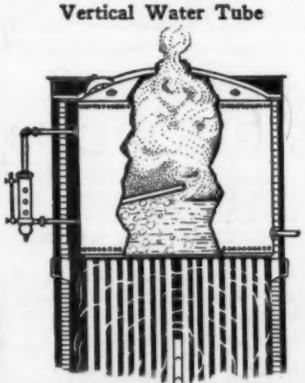

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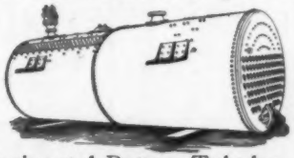

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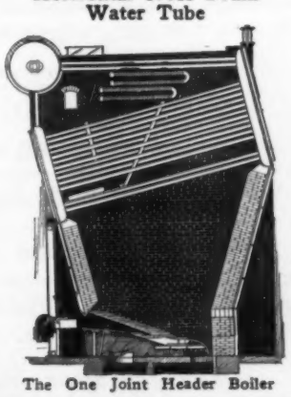

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A prepared iron boring oxide whose physical properties make it purify at least cost.

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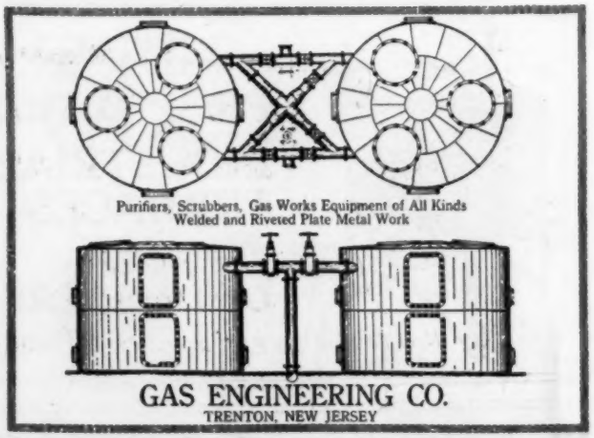
GAS PURIFYING MATERIALS CO., Foot of Halsey St., Long Island City, New York

Russell Engineering Company *St. Louis*

Coal Carbonization Plants, Benches, Repairs, Improvements, Extensions, Apparatus

All Goodman Stoppers are now equipped with the Improved Patented Locking Sleeve, which locks both handles to the pipe. Stopper cannot slip.

SAFETY GAS MAIN STOPPER CO.
523 Atlantic Ave. Brooklyn, N. Y.



Purifiers, Scrubbers, Gas Works Equipment of All Kinds
Welded and Riveted Plate Metal Work

GAS ENGINEERING CO.
TRENTON, NEW JERSEY

5-150
10-375
30-875
60-1500
150-3400

METERS
DIAPHRAGMS
REPAIRS
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PUMPS
CALORIMETERS
WET METERS
GAUGES
APPARATUS

LAMBERT METER CO.
BUSH TERM. BLDG. 4, BROOKLYN, N. Y.

THE KEMP
Automatic Gas System

The Kemp System increases the uses for gas, applying it efficiently and economically for purposes for which the use of gas has been considered impracticable.

THE GEO. KEMP MFG. CO.
BALTIMORE, MD. 405-415 E. OLIVER STREET

AMERICAN
GAS PURIFYING MATERIAL
Sun Oxide of Iron

Prepared Mineral Sponge

Mineral Sponge (Lime Base)

AMERICAN MINERAL PRODUCTS & COLOR CO. Inc.
Noblestown, Pa.

We make it easy to sell
IMPERIAL GAS IRONS

First of all, the gas companies have a flying start; inasmuch as Imperial Gas Irons are known and approved by over Two and a Half Million users.
Secondly, our intensive and unique sales promotion plans are productive of excellent results.
Thirdly, our experienced sales demonstration staff will teach your selling organization their most successful methods. A generous profit is yours.
Write for sample iron and an interview.

GENERAL SPECIALTY COMPANY
455 Eleventh Avenue
New York City

Specialists
in
Fire Clay Refractories

Let Us Quote on Your Requirements

The Jersey City Refractories Co.
A. E. ACHESON
135 West Side Ave. Jersey City, N. J.

STRUCTURAL PAINTING

Gas Holders, Tanks, Pipe Lines, and other Structural Metal-work in and around the Gas Plant.

With a complete knowledge of the necessary requirements of this class of Painting we can guarantee results

COMMERCIAL PAINTING CO.
1461 BROADWAY NEW YORK

SPRAGUE METERS

No. 1-A METER

Represent twenty years of progress

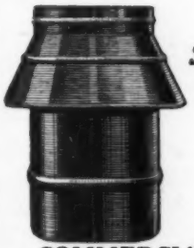
Send for bulletin No. 7

SPRAGUE METER CO.

BRIDGEPORT, CONN.

Los Angeles San Francisco Davenport, Ia.

THE ACME FLUE



FOR GAS RANGES

Sells Quickly!

Builds Business!

Because it keeps kitchen walls clean by eliminating greasy vapors. The ACME FLUE makes a strong appeal to every housewife. Write for details.

COMMERCIAL GAS APPLIANCE CO.

213-15 Guilford Ave., Baltimore, Md.

Instruments for the Gas Industry

Thermometers
Hydrometers
Hygrometers
Manometers
Vacuum Gauges
Draft Gauges
Special and Experimental Instruments

PRECISION THERMOMETER & INSTRUMENT CO.

1439 Brandywine St., Philadelphia, Pa.

CRUSE-KEMPER CO.

Gas Holders - Tanks - Purifiers
Steel Plate Work

C-K CO

Our prices may be a trifle high, but the job is always good

AMBLER, PA.

WESTMORELAND "CRITERION" GAS COAL

The Standard for Gas Making Since 1854

Since the commencement of operations by this Company, its well-known Westmoreland "CRITERION" Coal has been largely used by the Gas Companies of New England and the Middle States, and its character is established as having no superior in gas-giving qualities and in freedom from sulphur and other impurities.

Mines situated on the Pennsylvania and the Baltimore and Ohio Railroads, in Westmoreland County, Pa.

THE WESTMORELAND COAL COMPANY

Principal Office, 224 South Third Street, Philadelphia, Pa.

Points of Shipment: Philadelphia, Baltimore, South Amboy, N. J.

1926 Edition American Gas Catalog *and* Directory

We are aiming to make the forthcoming 1926 Edition of the American Gas Catalog and Directory of even greater value to the gas industry than any of the preceding editions.

New charts, formulae and data are now in course of preparation, which, when completed, will form a handbook of practical, reliable information indispensable to every gas man.

We have striven during the past four years to make each succeeding issue of the American Gas Catalog and Directory more informative than any of its predecessors; and, as several hundred gas executives have written us, "Each year it grows better and more valuable."

An entirely new feature inaugurated with the 1925 edition was the list of trade-names used by manufacturers of every gas appliance familiar to the gas industry. This listing has proved extremely valuable to the executive in charge of purchasing, and will be greatly augmented in the 1926 edition.

Realizing that such a complete and comprehensive volume as the American Gas Catalog represents can be of value to the executives, managers and superintendents of *gas companies only,* we confine our distribution to this field exclusively. *There is absolutely no waste circulation.*

Nine hundred seventy-five manufactured gas companies in the United States, and two hundred of the larger natural gas companies received the last issue of the Catalog. The gas industry was covered a full 100% with the 1925 edition. This is the first time in the history of gas catalogs that this coverage has been so complete.

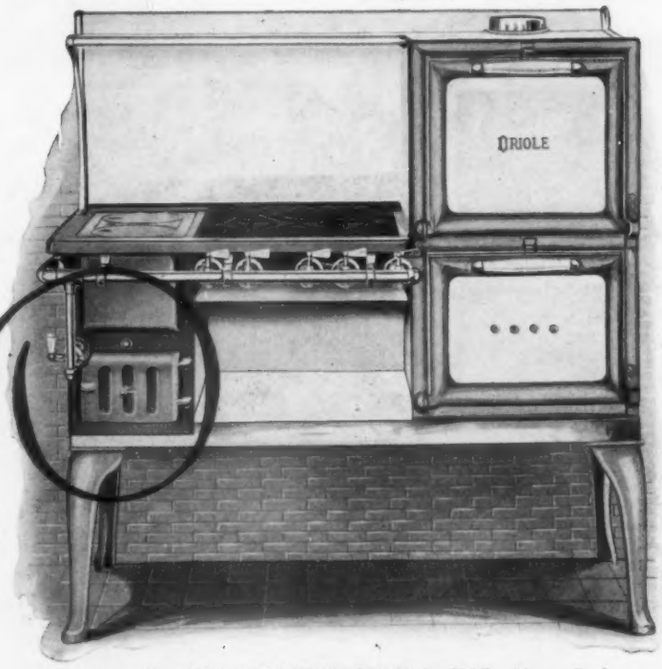
Over 700 Executives, Managers and Superintendents acknowledged receipt of the Catalog and expressed their approval of the data pages, and the immense value these pages are to the men in charge of all the various departments of the plant.

The publication of the Catalog and Directory in two distinct sections, which went into effect with the 1925 edition, met with such popular approval that this policy will be continued in 1926. The Directory Section will appear shortly after the Catalog.

Every one receiving the Catalog will also receive the Directory Section

AMERICAN GAS JOURNAL

53 PARK PLACE, NEW YORK



No. 850-R KITCHEN HEATER RANGE with gas-fired trash burning attachment

Now! The Logical Range for Midwinter Sales!

The ORIOLE Kitchen Heater Range is proving to be the logical range to stimulate sales during the colder months.

Because—

It is a range of complete service, performing four functions.

It can be used to heat the kitchen.

It has a gas-fired trash burning attachment that provides for the disposal of the trash that accumulates daily in every home.

It can be used to heat water quickly and satisfactorily.

It can be equipped with patented ORIOLE Cleantop, patented ORIOLE Raising and Lowering Broiler and ORIOLE Oven Heat Control.

It is everything a quality range should be—in beautiful appearance, in famous ORIOLE construction, in convenience features.

Place your order for a sample ORIOLE Kitchen Heater Range now. It is the range that anticipates the housewife's every need. Practically sells on sight wherever displayed. Can be furnished in all enamel (No. 850), semi-enamel (No. 852), and in black (No. 853). Act today!

THE STANDARD GAS EQUIPMENT CORP.

ORIOLE DIVISION—Successors to
BALTIMORE GAS APPLIANCE & MANUFACTURING CO.
BAYARD AND HAMBURG STREETS, BALTIMORE, MD.

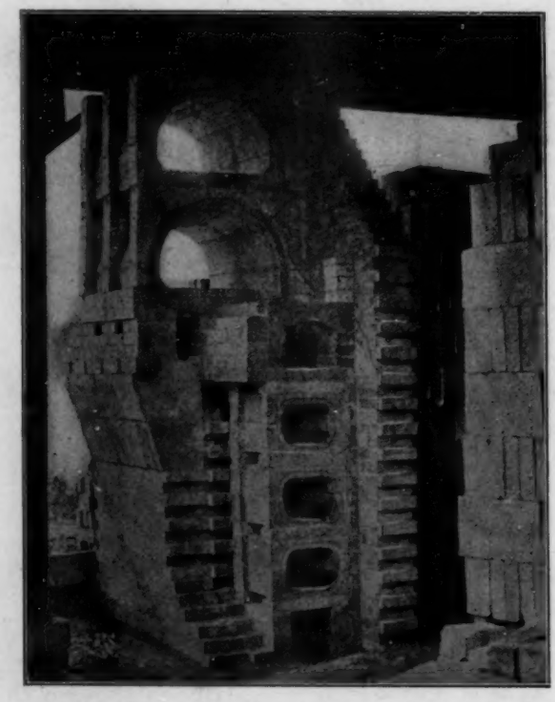
Pacific Coast Distributor—Northwest Gas and Electric Equipment Company, Portland, Ore.
Branch Offices—Los Angeles and San Francisco

"Anything in Fire Clay"

PRODUCTS.

Clay Retorts.	Boiler Arches and Jambs.
Silica Retorts.	Stoker Arch Tile.
Clay and Silica Settings.	Special Tile and Shapes.
Checker Brick.	Carbon Tile.
Water Gas Linings.	Fire Clay and Grog.
Cupola Blocks.	Rotary Kiln Blocks.

High Grade "DIAMOND" Brick and Shapes for all purposes.



Photograph of a half section of our Recuperator and Furnace Arch. Entire weight of retorts is being carried on furnace and recuperator walls. Note absence of furnace arch key and two-piece construction of recuperators.

CONSTRUCTION DEPARTMENT.

We design and build complete Gas Plants.
Coal Gas Benches of all types and designs.
Refilling Work, Clay or Silica.
Bench Iron.
Industrial Furnaces.

"THERMO" RETORT CEMENT

"READY FOR USE"

For patching Hot Retorts, Furnace Linings, etc. Used for many years with very satisfactory results.

MISSOURI FIRE BRICK CO.

SECURITY BUILDING — ST. LOUIS, MO.

BUILDERS OF OVER 1,000 HOLDERS

A critical inspection of any "STAMANCO" GAS HOLDER will convince gas men that our 74 years' experience has taught us how to build them right. There's one near you.

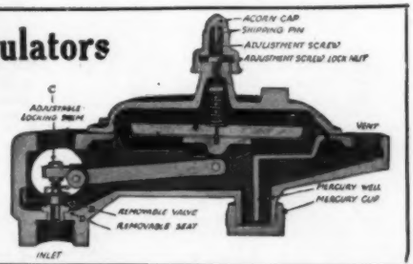
STACEY MANUFACTURING CO.
CINCINNATI, OHIO

Byllesby
Engineering and Management Corporation

231 S. La Salle Street
Chicago

New York San Francisco

"EMCO" Meters and Regulators
For Artificial and Natural Gas
Meters for Low and High Pressure.
Proportional Meters, Provers and Gauges
Regulators of all kinds.
Write for Catalog and Prices.
EQUITABLE METER CO. 422-34-36 First Avenue
PITTSBURGH, PA.



The "Know How" of Experts

All our products in illumination ware are the selection of men who have studied the gas lighting business for over half a century.

E. P. GLEASON MFG. CO.
87-89 MURRAY ST. NEW YORK

WATERPROOFING FOR GAS PLANTS THAT IS ABSOLUTELY PERMANENT

We prosecute the work in its entirety.
"Our Service Record backs our Guarantee"
PERMANENT WATERPROOFING CO.
1248 Peoples Gas Building Chicago, Ill.

'Isbell Porter Company
Builders of Gas Works
NEWARK, N. J.
Company Member American Gas Association

U. S. PRODUCTS
CAST IRON PIPE **USICAST CASTINGS**
United States Cast Iron Pipe & Fdy. Co.
General Offices: Burlington, N. J.

KOMPAK
TRADE MARK REG.
Kompak Co.
New Brunswick, N. J.

Automatic Water Heater

Copper Boiler Automatic Pilot

AMERICAN GAS FURNACE CO. PIONEERS IN 1878 LEADERS TODAY

Equipment for Hardening, Annealing, Case Hardening, Tempering, Coloring, and for all Industrial Heat-Treating Operations.

Bulletin AG-20 on request

American Gas Furnace Co.
Elizabeth, N. J.

Journal Ads Produce Results

To get in touch with the right man to fill the vacancy in your organization, advertise in the Classified Columns of the American Gas Journal.

Unger Ammonia Stills

Make a Superior Concentrate as light as Water. Lime supplied to Still in a DRY STATE, no previous slaking required.

JOHN S. UNGER 634 Grace Street Chicago

Buyers' Reference Index

See Page 33 for advertisements of these products

AMMONIA CONCENTRATORS
Michigan Ammonia Works

AMMONIA STILLS
Unger, John S.

ANNEALING MACHINES
Rotary
American Gas Furnace Co.

BAFFLES
Quigley Furnace Specialties Co.

BAGS
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See also Stoppers.

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Gas Machinery Co.

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American Gas Furnace Co.
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BOILERS
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The Wickes Boiler Co.

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Cox—American Gas Journal

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Equitable Meter Co.
Gas Machinery Co.
Lambert Meter Co.
Pittsburgh Meter Co.
Superior Meter Company
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Helme & McIlhenny
Lambert Meter Co.
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Pittsburgh Meter Co.
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"A" Type Meter

THE A METER

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IN 5-LT. AND OTHER SIZES

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Better equipment must mark progress in the gas business. Present appliances were only occasionally thought of a few years ago. Then we had hot plates, gas logs, open gas burners, etc. Now we have gas ranges with oven control, radiant fires, gas ovens, gas radiators, gas water heaters, incandescent burners and an increasing number of comforts and conveniences which show the progress of the industry.

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The "A" series meters capacities are:

5-A	175	cubic	feet	per	hour
10-A	375	"	"	"	"
30-A	875	"	"	"	"
60-A	1500	"	"	"	"
150-A	3400	"	"	"	"

They are economical in customer's space occupied, in cost of installation, and in maintenance expense. Another great advantage is that the whole range of customers' demands are met by carrying only five sizes of meters in the stock room.

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